```
<220>
<221> SITE
<222> (7942)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7943)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7944)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7945)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7946)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7947)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7948)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7949)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7950)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7951)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7952)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7953)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (7954)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7955)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7956)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7957)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7958)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7959)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7960)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7961)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7962)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7963)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7964)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7965)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (7966)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7967)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7968)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7969)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7970)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7971)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7972)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7973)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7974)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7975)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7976)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7977)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7978)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7979)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7980)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7981)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7982)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7983)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7984)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7985)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7986)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7987)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7988)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7989)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7990)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (7991)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7992)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7993)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7994)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7995)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7996)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7997)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7998)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7999)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8000)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8001)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8002)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8003)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8004)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8005)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8006)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8007)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8008)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8009)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8010)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8011)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8012)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8013)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8014)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8015)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8016)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8017)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8018)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8019)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8020)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8021)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8022)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8023)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8024)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8025)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8026)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8027)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8028)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8029)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8030)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8031)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8032)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8033)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8034)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8035)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8036)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8037)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (8038)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (8039)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8040)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8041)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8042)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8043)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8044)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8045)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8046)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8047)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8048)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8049)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8050)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8051)
<223> n equals a,t,g, or c
```

THE RESERVE THE RESERVE THE PROPERTY OF THE PERSON OF THE

```
<220>
<221> SITE
<222> (8052)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8053)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8054)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8055)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8056)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8057)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8058)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8059)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8060)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8061)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8062)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8063)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8064)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8065)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8066)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8067)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8068)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8069)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8070)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8071)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8072)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8073)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8074)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8075)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8076)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8077)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8078)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8079)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8080)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8081)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8082)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8083)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8084)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8085)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8086)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8087)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8088)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8089)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8090)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8091)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8092)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8093)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8094)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8095)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8096)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8097)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8098)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8099)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8100)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8101)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8102)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8103)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8104)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8105)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8106)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8107)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8108)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8109)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8110)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8111)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8112)
<223> n equals a,t,g, or c
```

<220>

```
<220>
<221> SITE
<222> (8125)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8126)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8127)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8128)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8129)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8130)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8131)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8132)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8133)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8134)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8135)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8136)
<223> n equals a,t,g, or c
```

```
<221> SITE
<222> (8137)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8138)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8139)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8140)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8141)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8142)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8143)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8144)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8145)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8146)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8147)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8148)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8149)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8150)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8151)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8152)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8153)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8154)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8155)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8156)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8157)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8158)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8159)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8160)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8161)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8162)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8163)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8164)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8165)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8166)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8167)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8168)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8169)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8170)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8171)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8172)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8173)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8174)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8175)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8176)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8177)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8178)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8179)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8180)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8181)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8182)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8183)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8184)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8185)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8186)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8187)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8188)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8189)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8190)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8191)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8192)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8193)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8194)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8195)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8196)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8197)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8198)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8199)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8200)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8201)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8202)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8203)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8204)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8205)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8206)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8207)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8208)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8209)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8210)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8211)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8212)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8213)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8214)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8215)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8216)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8217)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8218)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8219)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8220)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8221)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8222)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8223)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8224)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8225)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8226)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8227)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8228)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8229)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8230)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8231)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8232)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8233)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8234)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8247)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8248)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8249)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8250)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8251)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8252)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8253)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8254)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8255)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8256)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8257)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8258)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8259)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8260)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8261)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8262)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8263)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8264)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8265)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8266)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8267)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8268)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8269)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8270)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8271)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8272)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8273)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8274)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8275)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8276)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8277)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8278)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8279)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8280)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8281)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8282)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8283)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8284)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8285)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8286)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8287)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8288)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8289)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8290)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8291)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8292)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8293)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8294)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8295)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8296)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8297)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8298)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8299)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8300)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8301)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8302)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8303)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8304)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8305)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8306)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8307)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8308)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8309)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8310)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8311)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8312)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8313)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8314)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8315)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8316)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8317)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8318)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8319)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8320)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8321)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8322)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8323)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8324)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8325)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8326)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8327)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8328)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8329)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8330)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8331)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8332)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8333)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8334)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8335)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8336)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8337)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8338)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8339)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8340)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8341)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8342)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8343)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8344)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8345)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8346)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8347)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8348)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8349)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8350)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8351)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8352)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8353)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8354)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8355)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8356)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8357)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8358)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8359)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8360)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8361)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8362)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8363)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8364)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8365)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8366)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8367)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8368)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8369)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8370)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8371)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8372)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8373)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8374)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8375)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8376)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8377)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8378)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8379)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8380)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8381)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8382)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8383)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8384)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8385)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8386)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8387)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8388)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8389)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8390)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8391)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8392)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8393)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8394)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8395)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8396)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8397)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8398)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8399)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8400)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8401)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8402)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8403)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8404)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8405)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8406)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8407)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8408)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8409)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8410)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8411)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8412)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8413)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8414)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8415)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8416)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8417)
<223> n equals a,t,g, or c
```

<223> n equals a,t,g, or c

```
<220>
<221> SITE
<222> (8430)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8431)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8432)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8433)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8434)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8435)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8436)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8437)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8438)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8439)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8440)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8441)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8442)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8443)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8444)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8445)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8446)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8447)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8448)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8449)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8450)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8451)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8452)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8453)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8454)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8455)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8456)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8457)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8458)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8459)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8460)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8461)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8462)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8463)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8464)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8465)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8466)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8467)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8468)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8469)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8470)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8471)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8472)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8473)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8474)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8475)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8476)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8477)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8478)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8479)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8480)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8481)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8482)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8483)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8484)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8485)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8486)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8487)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8488)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8489)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8490)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8491)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8492)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8493)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8494)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8495)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8496)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8497)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8498)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8499)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8500)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8501)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8502)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8503)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8504)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8505)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8506)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8507)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8508)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8509)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8510)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8511)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8512)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8513)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8514)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8515)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8516)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8517)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8518)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8519)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8520)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8521)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8522)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8523)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8524)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8525)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8526)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8527)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8528)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8529)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8530)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8531)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8532)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8533)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8534)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8535)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8536)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8537)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8538)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8539)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8540)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8541)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8542)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8543)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8544)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8545)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8546)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8547)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8548)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8549)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8550)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8551)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8552)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8553)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8554)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8555)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8556)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8557)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8558)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8559)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8560)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8561)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8562)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8563)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8564)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8565)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8566)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8567)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8568)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8569)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8570)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8571)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8572)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8573)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8574)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8575)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8576)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8577)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8578)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8579)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8580)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8581)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8582)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8583)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8584)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8585)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8586)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8587)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (8588)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8589)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8590)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8591)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8592)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8593)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8594)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8595)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8596)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8597)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8598)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8599)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8600)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8601)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8602)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8603)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8604)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8605)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8606)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8607)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8608)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8609)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8610)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8611)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8612)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8613)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8614)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8615)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8616)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8617)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8618)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8619)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8620)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8621)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8622)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8623)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8624)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8625)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8626)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8627)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8628)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8629)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8630)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8631)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8632)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8633)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8634)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8635)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8636)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<220>
     <221> SITE
     <222> (8639)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8640)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8641)
     <223> n equals a,t,g, or c
<220>
     <221> SITE
     <222> (8642)
     <223> n equals a,t,g, or c
     <220>
<221> SITE
#
     <222> (8643)
<223> n equals a,t,g, or c
4
     <220>
<u>L</u>i
<221> SITE
     <222> (8644)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8645)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8646)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8647)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8648)
     <223> n equals a,t,g, or c
```

<220> <221> SITE <222> (8649)

<222> (8637)

<220> <221> SITE <222> (8638)

<223> n equals a,t,g, or c

<223> n equals a,t,g, or c

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8650)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8651)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8652)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8653)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8654)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8655)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8656)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8657)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8658)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8659)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8660)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8661)
<223> n equals a,t,g, or c
```

```
<222> (8662)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8663)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8664)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8665)
     <223> n equals a,t,g, or c
     <220>
<221> SITE
The first fluid first fluid fluid fluid
     <222> (8666)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8667)
     <223> n equals a,t,g, or c
<220>
     <221> SITE
     <222> (8668)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8669)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8670)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8671)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (8672)
     <223> n equals a,t,g, or c
```

<220> <221> SITE <222> (8673)

<223> n equals a,t,g, or c

<220> <221> SITE

```
<220>
<221> SITE
<222> (8674)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8675)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8676)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8677)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8678)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8679)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8680)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8681)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8682)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8683)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8684)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8685)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8686)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8687)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8688)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8689)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8690)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8691)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8692)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8693)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8694)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8695)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8696)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8697)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8698)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8699)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8700)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8701)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8702)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8703)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8704)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8705)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8706)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8707)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8708)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8709)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8710)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8711)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8712)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8713)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8714)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8715)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8716)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8717)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8718)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8719)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8720)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8721)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8722)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8723)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8724)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8725)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8726)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8727)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8728)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8729)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8730)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8731)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8732)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8733)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8734)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8735)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8736)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8737)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8738)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8739)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8740)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8741)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8742)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8743)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8744)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8745)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8746)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8747)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8748)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8749)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8750)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8751)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8752)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8753)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8754)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8755)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8756)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8757)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8758)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8759)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8760)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8761)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8762)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8763)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8764)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8765)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8766)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8767)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8768)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8769)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8770)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8771)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8772)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8773)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8774)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8775)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8776)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8777)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8778)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8779)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8780)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8781)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8782)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8783)
<223> n equals a,t,g, or c
```

יי ען דון יייזידן (און וליקטידן אי דור ווא און או און דער <u>אין די</u>י

```
<220>
<221> SITE
<222> (8784)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8785)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8786)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8787)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8788)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8789)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8790)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8791)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8792)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8793)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8794)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8795)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8796)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8797)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8798)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8799)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8800)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8801)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8802)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8803)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8804)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8805)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8806)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8807)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8808)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8809)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8810)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8811)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8812)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8813)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8814)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8815)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8816)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8817)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8818)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8819)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8820)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8821)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8822)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8823)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8824)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8825)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8826)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8827)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8828)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8829)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8830)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8831)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8832)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8833)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8834)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8835)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8836)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8837)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8838)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8839)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8840)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8841)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8842)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8843)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8844)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8845)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8846)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8847)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8848)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8849)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8850)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8851)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8852)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8853)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8854)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8855)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8856)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8857)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8858)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8859)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8860)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8861)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8862)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8863)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8864)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8865)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8866)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8867)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8868)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8869)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8870)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8871)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8872)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8873)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8874)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8875)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8876)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8877)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8878)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8879)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8880)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8881)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8882)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8883)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8884)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8885)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8886)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8887)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8888)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8889)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8890)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8891)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8892)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8893)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8894)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8895)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8896)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8897)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8898)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8899)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8900)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8901)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8902)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8903)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8904)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8905)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8906)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8907)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8908)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8909)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8910)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8911)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8912)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8913)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8914)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8915)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8916)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8917)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8918)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8919)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8920)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8921)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8922)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8923)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8924)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8925)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8926)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8927)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8928)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8929)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8930)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8931)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8932)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8933)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8934)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8935)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8936)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8937)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8938)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8939)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8940)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8941)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (8942)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8943)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8944)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8945)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8946)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8947)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8948)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8949)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8950)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8951)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8952)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8953)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8954)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8955)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8956)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8957)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8958)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8959)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8960)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8961)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8962)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8963)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8964)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8965)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8966)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8967)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8968)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8969)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8970)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8971)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8972)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8973)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8974)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8975)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8976)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8977)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8978)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (8979)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8980)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8981)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8982)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8983)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8984)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8985)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8986)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8987)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8988)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8989)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8990)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (8991)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8992)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8993)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8994)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8995)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8996)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8997)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8998)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8999)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9000)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9001)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9002)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9003)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9004)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9005)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9006)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9007)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9008)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9009)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9010)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9011)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9012)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9013)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9014)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9015)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9016)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9017)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9018)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9019)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9020)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9021)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9022)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9023)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9024)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9025)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9026)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9027)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9028)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9029)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9030)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9031)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9032)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9033)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9034)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9035)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9036)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9037)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9038)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9039)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9040)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9041)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9042)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9043)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9044)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9045)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9046)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9047)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9048)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9049)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9050)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9051)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (9052)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9053)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9054)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9055)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9056)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9057)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9058)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9059)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9060)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9061)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9062)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9063)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9064)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9065)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9066)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9067)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9068)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9069)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9070)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9071)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9072)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9073)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9074)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9075)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9076)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9077)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9078)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9079)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9080)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9081)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9082)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9083)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9084)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9085)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9086)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9087)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9088)
<223> n equals a,t,g, or c
```

THE PROPERTY OF THE PROPERTY O

المصافية والمناسية والمستعد المستوالة المناه والمناه المناه المناه المناه والمناه المناه والمناه المناه والمناه

```
<220>
<221> SITE
<222> (9089)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9090)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9091)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9092)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9093)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9094)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9095)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9096)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9097)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9098)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9099)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9100)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9101)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9102)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9103)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9104)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9105)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9106)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9107)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9108)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9109)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9110)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9111)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9112)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (9113)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9114)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9115)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9116)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9117)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9118)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9119)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9120)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9121)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9122)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9123)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9124)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9125)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9126)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9127)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9128)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9129)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9130)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9131)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9132)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9133)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9134)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9135)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9136)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9137)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9138)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9139)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9140)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9141)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9142)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9143)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9144)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9145)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9146)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9147)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9148)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9149)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9150)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9151)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9152)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9153)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9154)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9155)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9156)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9157)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9158)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9159)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9160)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9161)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9162)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9163)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9164)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9165)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9166)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9167)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9168)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9169)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9170)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9171)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9172)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9173)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (9174)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9175)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9176)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9177)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9178)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9179)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9180)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9181)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9182)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9183)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9184)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9185)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9186)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9187)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9188)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9189)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9190)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9191)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9192)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9193)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9194)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9195)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9196)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9197)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9198)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9199)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9200)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9201)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9202)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9203)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9204)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9205)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9206)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9207)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9208)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9209)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9210)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9211)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9212)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9213)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9214)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9215)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9216)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9217)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9218)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9219)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9220)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9221)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9222)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9223)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9224)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9225)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9226)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9227)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9228)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9229)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9230)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9231)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9232)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9233)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9234)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (9235)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9236)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9237)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9238)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9239)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9240)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9241)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9242)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9243)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9244)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9245)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9246)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9247)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9248)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9249)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9250)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9251)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9252)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9253)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9254)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9255)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9256)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9257)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9258)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9259)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9260)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9261)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9262)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9263)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9264)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9265)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9266)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9267)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9268)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9269)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9270)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9271)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9272)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9273)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9274)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9275)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9276)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9277)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9278)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9279)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9280)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9281)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9282)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9283)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9284)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9285)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9286)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9287)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9288)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9289)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9290)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9291)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9292)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9293)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9294)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9295)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (9296)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9297)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9298)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9299)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9300)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9301)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9302)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9303)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9304)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9305)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9306)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9307)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9308)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9309)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9310)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9311)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9312)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9313)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9314)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9315)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9316)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9317)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9318)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9319)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9320)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9321)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9322)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9323)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9324)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9325)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9326)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9327)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9328)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9329)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9330)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9331)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9332)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9333)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9334)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9335)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9336)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9337)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9338)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9339)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9340)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9341)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9342)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9343)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9344)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9345)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9346)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9347)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9348)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9349)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9350)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9351)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9352)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9353)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9354)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9355)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9356)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (9357)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9358)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9359)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9360)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9361)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9362)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9363)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9364)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9365)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9366)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9367)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9368)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (9369)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9370)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9371)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9372)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9373)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9374)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9375)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9376)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9377)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9378)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9379)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9380)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9381)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9382)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9383)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9384)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9385)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9386)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9387)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9388)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9389)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9390)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9391)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9392)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9393)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9394)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9395)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9396)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9397)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9398)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9399)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9400)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9401)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9402)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9403)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9404)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9405)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (9406)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9407)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9408)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9409)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9410)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9411)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9412)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9413)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9414)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9415)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9416)
<223> n equals a,t,g, or c
<400> 12696
gtgacttgta gctttaacaa aaattaggtt ccctagttgc agctgccagg gaaagctagt
                                                                         60
ctaatatcaa agcaaaccat ccttcttctc aagcacagag tttttaagat aggagtgtgt
                                                                        120
gtgtattgac attttcctag cagtggctga agtcaaggac caggagattt agggcccact
                                                                        180
tggagttctt atggtgaaac agtagtagct tcctagagac ctttaaagct tatctgtaat
                                                                        240
ttgtatagtt cagaagatac tgtatacatc attatttctc cctgctttca aaacaggaag
                                                                        300
```

ggggtgtgga gagtaacaca ctaaaaaaag gataagtaat taatttctgg gtaagaattt 360 420 ccttttggct taaaatggac tgatggtgta agttcctccc tttgcaagca gaagctttga 480 aqataqtgag ctagatgaag ctctggacat cttgaatgaa gtattctgta taagaaccaa 540 gtgtataata actgttagta atagaggctg ctcatagaaa tgtcattgca ttataattgt 600 agggacagtt tgtcagagag taggtagaag attatcagac ccaggttttg ttcttggctc 660 acatgaagtc atcaagtagg ctatttaaat gcttcacttt aaccataggc taagattaaa ttaaaaataa aaagcttttg tcatggccgg gcacagtggc tcatgcctgt aatcccagca 720 780 ctttgggagg ctgaggtggg tggatcacct gaggtcagga atttgagact ggtctgacca 840 acatggtgaa accctgtctc tactaaaaat acaaaaatta gccgggcacg gtggtgcacg 900 cctgtaatcc cagctactcg ggaggctgag gcaggagaat cgcttgaacc tgggaggggg aggttgcagt gagccgagat cgtaccattg cactccagcc tgggggacag agtgagactc 960 1020 cgtctcaaaa aaaaaaaaaa aaaaagcttt tgtcaattaa agatgcttgt cagtactgag tattcatgtt gctatggcac ttttataaga aaactgtaca cggtcatatc tgcttccgaa 1080 aataatacat agtgagatag taattttaca ggcaattaag aatttgctgg ccaggcgcgg 1140 tggcttacac ctgtaatccc agcactttgg aaagccaagg tgggtggatc acctgaggtc 1200 aggagtttga gaccagcctg gccaacatgg cgaaaccctg tctctactaa aaaaaaaaa 1260 ccaaaaaatt agccgggcat ggtggcaggc gcttgtaatc ccagcaactt gggaggctga 1320 ggcaggagaa tcacttgaac ccgggaggca gaggttgcag tgagccgaga tcgcgccatt 1380 1440 gcactccacc tgggcaacaa gagcaaaaac tccgtctcaa aaaaaaaaga atttgctata 1500 atagaagatc catgtgtaca ttctgtatgc aaatcttagg aagatattag atcccagaag gttaaagttc cgatctctat atatttgtat atgctttaag gagaagtggc atccatgtag 1560 atgtggtaaa tggcttataa ctctcgaggt ttccaatttc tgctgtggta gcaattctaa 1620 actcagatgg acttggacac tactctggat tactgtccct aaatatcaac tactgtttat 1680 1740 aagccagcag aggccaactg aaatagtaca cataaagttc ctacagcata tccctcagtc 1800 agaagtggaa aagattgatt aaagttggag tataaacata tggggccctg accaaaaata 1860 ttgaaccgta ctactagaaa tccccattct ttagctaaag gataatctga cttcactttt 1920 aattetteat tgactattgg tgetetgaaa gaataggaaa taatagcaaa acatgggaac 1980 tcctagatag catacattta tttttaaaat gtataccatc ggccaggcac catggctcac 2040 gcctgtaatc ccagcacttt gggaggccaa ggtgggcgga tcatttgagg tcaggagttg 2100 gagaccaccc tgggcaacat ggtgaaaccc catctctact aaaaatacaa aaactaactg 2160 ggtgtggtag cacacactg taatcccagc tactcaggag gctgaggcag tagaactgct tgaacctgga agacagaggt tgcagggagc caagatcacg ccactgtact atagcctggg 2220 agaaaacaaa caaaaaacat atggtcaact tcccaagtaa actgaccaat gtcagtttag 2280 gttcagtctt actgtaggag tgcctgccgt aggccagcgc ctctcaacct ttccactaag 2340 2400 tacattaaga tootaacagt aatcattggg accocaggto atcgtotcaa cagaagotoo 2460 agatttcttc aagtcttggc cctcttgttt tatatcaaaa ttttatgtat attatttta 2520 tattttcaaa aattctcccc agatcatcaa gtaatattga gatgctgaca tagaaaaaag 2580 tagatttcca gctggtatga tcagtgataa attggacttc atcaaaatta aaagcttttg tgcaccaaag gatactatca agaaagtaaa aagctatccc acagaatagg agaaaatatt 2640 2700 tgtaaatcat aagtctagta ttcagatgtc taaagaactc ttagaattca acaataaaaa 2760 gataacccag tttacaaaat ggatatgaat agacagttct ctaaaagaga catatacatg 2820 gccaataagc tcgtgaaaag ctgtttaata tctttagtca ttagggaaat gcaaatcaaa 2880 accacaatga tatatcattt cacacctact aggatggcaa taatcaaaaa cacacaaaca gatgttggtg aagatacgga gaaattggaa ccctcaagca ttgctggtgg gaatgtaaaa 2940 tggtgcagcc acttgtggaa aatagtttgt cagttcctca aaaagttcac agttaccata 3000 tgacccagca attccattcc tagggttaca cccaagggaa ctgaaagcat agattcacac 3060 aaaaacttgt acacaaatgt tcatagcttt attataatag ccaaaagtgg aaacaaccca 3120 gttgtccacc aattgggaca aattgaatga atacacaaaa tgttatatcc acacaatgga 3180 atgttattca gccataagaa aacaatgaaa tcctgatcac atgctgcgac acagatgaac 3240 cttgaaaaat tgtgacatga aacaagccag acacaaatgg ccacatattg tatgattcca 3300 tttatatgaa atacccagaa taagctaatt cgtaaagaca gaaaatagat tggtggttgc 3360 taggggataa gaggaagggt gaattgggaa tggccactat gcggtacagg gtttctaatg 3420 ttctggcatt agatagcaga gatgaaaatg ttctggcatt agatagtgga gatggttgca 3480 taacactgaa tatactaaaa tccactgaat tgtacactta aaaaaatgaa gaaagaagga 3540 ctatgcatga tcaaagaaaa aaatgctttg tgctcaagta gggatagaat aaacagtaag 3600 actggaaaga ctgtgaaggg ccttgaatgg caagctaagg aagttagctt tcatcttata 3660 gatcgtagga agccaccaga gtattttgag caggggtggc atgtttaagg tagtgttata 3720 ggaagtttaa tttgtgaaat gagaaagaga tactatcagc caggagaggt agaaggttct 3780 3840 ataaagtcaa attgaacacc cgaagtttca gatttcatga atgaccctgg gtatgtgt 3900 atacacatat gtatgggatt tgtagtcatc tggggaaggc tgaggtgcta atatgaatac tgaaaactag agagggtaat atagcagagt agttaaaaat gaaaacactc tgaacccaca 3960 tgctgtctgg gttcaaattc cagctgggct accttccagc actgtgacct taggtaagtc 4020 actaaccctg tctgtgcttc agcttcctct tccgtaagat aaggatacct actcatcaag 4080 gttgttttga ggattaagtg ggttaataca tacaaagtgt ttacaatgtc aagcttaaag 4140 aaaggtcccc aaaaatgtca gctgctagtc tgaaactcca gagcaggttt gagagtaacc 4200 cgctgttgtt ctctgccccg gataaactat gaagtaacag tcctaaagtg ttaaaagaca 4260 aaacaaattt ttctttgtga aaaatgaccc tttaaaaaaaa ctccatctac taataatgaa 4320 gcttagtagt agtaaaatga tgatttttag ccataaaacg ggttttctat atcttcacaa 4380 atatagtgta gagtttcaca atattctttg atatgaacca gtctctcata ctttctgtat 4440 agcactgatt cgctaagtaa gatgccaagg catgacctcc cttcaggaat tgggaatctg 4500 catttttaat aagcatccta ggtaattctt ttttttttt tttttttt gagacggagt 4560 ctcgctctgt cgcccaggcc ggactgcgga ctgcagtggt gcaatctcgg ctcactgcaa 4620 4680 gctccgcttc ccgggttcac gccattctcc tgcctcagcc tcccaagtag ctgggactac 4740 aggcgcccgc caccgcgccc ggctaatttt ttgtattttt aatagagacg gggtttcacc 4800 ttgttagcca ggatggtctc gatctcctga cctcatgatc cacccgcctc ggcctcccaa 4860 agtgctggga ttacaggcgt gagccaccgc gcccggccgc atcctaggta attcttatgc 4920 atgatacagg ttgagaccag tgccatgtac agaagtggga aaaatggctt atgaaactca gttgtattta gcacactgtg ttagacataa aatttgaaaa cccaacctgg acaacacagt 4980 5040 gagacccagt ctctactaaa ataaaataaa taagtgaaca ttgaaaacca atggatagta gaatgtattc agttcagtga gacatgaaac aatatttttg cttaattgaa tcaaacatat 5100 gttaaaaaaa aaaaaaaaac tcaccctact cccaaagcac tcaataaatt cttcagagaa 5160 5220 aaggaagagc tttttgtact acattgcctc taaaatcttc tgtaggataa gacattttaa gatcacttaa aatcttgttt taagttttta agtctcattt taataaccaa ataaaatggt 5280 ttttatttga gccagtttca agttcttaaa gtgacacata ggacttaaca aaatccatta 5340 gttgtcattt gtgctttgcc catttttact gatttcttca tactctgaag gaaaaaaaat 5400 gctacaaatg tatgttggta tataagagag tgcattccat aaatattaga aattttttt 5460 5520 ttcttttttt gagatggagt ttcactcttt cgcccaggct ggagtgcagt ggtgccatct 5580 cagctcactg caacctctgc cttccagttt caagtgattc tcctgcctca gcctcctgag cagctgggat tacaggcgcc cgccaccacg cccagctaac ttttgtattt ttagtagaga 5640 tggggtttca ccatgttggc caggctggtc ttgaactcct gaccttgtga tccacccacc 5700 tcagcctccc aaagtgctgg gattacaggc gttagccact gcgcccggcc agaaaaatat 5760 tttatagaat tcaaacttgt attttctttt gaagggatat aaaaagggtg agagaaccca 5820 acaaccacac ttattcaaat ttataaggat aattaggagt attctcatgg ttatctttag 5880 aatcttagca gggtaaaaaa gagtttattg tttcatttgc tgaaactcct gagaagaagt 5940 ctcaccacat ttgtatttac agagattaga tttggcaact ctaaagacaa gagaaattac 6000 tcatgataag tgtttggagg ggttggagag aaaacagcta attaggcact tggcagtgtg 6060 gcagggcaac ctttgggcaa cccagtccag attaggttag aagaggagca cggacctttt 6120 gtccactgca aaccagtgcc acaaatgaag tgggaagaga caggttacca catactggtt 6180 ggacttgaga gagaaccaga aagtgtacaa tcccataagc ataaaaaatg gggataaaac 6240 6300 ttcaagtgta tataagggta agaacaggag gaagcagtaa cagagagggc aggagagaaa gatcagaagg aatcggacgc ctgagaagag gaactggggg ctgagtcctg tcctggcctg 6360 gccgctcccc attcctccct ctgcctctga gggcttcagt tttcccaagt gagaaacagc 6420 6480 tgtgctagat tgcttctaca gtcctttcca ctcctggacc gaaacagttg cccctgcatc taaaatacgt agctctagca tataaaatgc aggttacctc aactcccccc cgactcccac 6540 atctcactcc cttcctttcc ctgcctgccc taattctggc tgcgttctgt tcttgcctca 6600 6660 tatggactct ttttctcctc cccttctttt ccaatgtcat gcagtctctt aacactgggt 6720 ttcaaccact atacagaaaa atgttagtga aaaaggaaga ggggttccat gctgcttgat tctccctaac caggcacact aaactagggg tgacagtgta tcacaaagtc cagactcaca 6780 gtcttgctgc cccttctcct cttcaaagtt tgtttccgaa gtaccacccc ttgcacctca 6840 6900 cateceagee aactetgeet acetgteage eccageeete etcaggeetg ecteageete 6960 acagccagga tectaccaae accaaeaeeg egecaaataa eeeeteeeaa aageeteaee 7020 ggaactaatc tggggactct gcctattatt aggaacacct tggatgaagc ccctacccgc agaattctgg cagtagcagc agaattttca ggcatgtgcc taattttgtt ggggtggtgg 7080 7140 ttgattattt tttttaaatc taggatttct gggatctgaa gcttatacaa tcttggatat 7200 cttctttaag aaaaagaata caaaaatatc ttctataagt tttacaaaaa tatatgacca 7260 tgtgagcacg ttgctagctc ccgccccac cccacccccc agagccttgg aaggggagtg 7320 aaactgaagc ttttttagct tcatggcaaa tatgcttctt cctgagagta ctgggtacat 7380 7440 gcaaaggcca aaatttctca cccctaggtg gctcaaattt ctgagcctga gattttatat 7500 cttaaaatcc attaaaagaa tactcaattt tcggccgggc gcagtggctc acacctataa 7560 tcccagcact ttgggaggct gaggcgggca gatcacgagg tcaggagatc gagactatcc 7620 tggctaacac ggtgaaaccc cgtctccact aaaaatacaa aaaattagcc aggcgtggtg

	gtagtcccag					7680
	ttgcagtgag					7740
	agaatactca					7800
tttagacatg	cataagtatt	ttaagtggcc	tgaaggaagt	acatgtatgc	tacttttgca	7860
aatattttcg	ctttttttt	tttttttt	gnnnnnnnn	nnnnnnnnn	nnnnnnnnn	7920
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	7980
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnn	nnnnnnnnn	8040
	nnnnnnnnn					8100
	nnnnnnnnn					8160
	nnnnnnnnn					8220
	nnnnnnnnn					8280
	nnnnnnnnn					8340
	nnnnnnnnn					8400
	nnnnnnnnn					8460
	nnnnnnnnn					8520
	nnnnnnnnn					8580
						8640
	nnnnnnnnn					8700
	nnnnnnnn					8760
	nnnnnnnnn					8820
	nnnnnnnnn					8880
	nnnnnnnnn					
	nnnnnnnnn					8940
	nnnnnnnnn					9000
	${\tt nnnnnnnn}$					9060
	nnnnnnnnn					9120
	nnnnnnnnn					9180
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	9240
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	9300
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	9360
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnntcac	9420
	ccagcacttt					9480
aagaccagcc	tgaccaacat	ggtgaaaccc	catctctact	aaaaatacaa	aaattagcca	9540
	cacacgcctg					9600
	aggcagaggt					9660
	agactctgtc					9720
ccaagetgea	gagctaaatt	ttaaactaga	taattctgat	tccaaagccc	agataatctg	9780
	gcaccagggg					9840
	gcaagtgtga					9900
tacctcaatc	tgttgcacct	gttctactaa	aacaaagaaa	tgagtcaacg	gcctctttta	9960
	tctctctgtc					10020
tttcaccact	cagccaacgg	gtgtgtataa	cattaatcac	tagcactaca	cctcagaagt	10080
attactage	aagagcactc	aggtgtataa	aagaaattaa	agaattttgg	taggcctttg	10140
gragageta	agtttaggtt	atttaactaa	attagaaacaa	taaaaaacta	acatttctta	10200
ggacageeca	ttttctttct	ttataacaa	taacaactat	ccaatactt	acctttaaaa	10260
acctaaccct	attgttcctc	gataagaat	ttttgatgag	ttatacageet	ttccatgagt	10320
tgtcccctct	agctgtcaca	otagacat	tatttaggta	ragetaactt	tragaaatga	10380
cetgtateae	agetgteaca	argerryage	tacctaggig	gaggcaaccc	acctaaattt	10440
actgctgaag	ggtgcagagt	gercaayaar	cagaccaaca	aayaaaytac	ataaaataa	10500
agcattaaaa	tgaactttta	aaatattttt	caataggagg	ataaytaaat	ataaaaacgg	10560
gtgtgcttat	gtctataaac	aggtgctgga	gcatagattg	ctatetggae	tagaagaat	10620
aatagagctg	tagctttaaa	agagcacaca	getggttatt	agigaticac	teceaggica	10620
ctgccaagtg	ccaaggcatg	tggcaagaat	agtagaatgg	aaatcaggtg	argreggarre	
taatttgagc	tctgctctgt	taaccttggg	catgccagtt	atcccctttg	gacettagte	10740
tcttatctac	ctaatgaagg	gtttggagca	ggtaattett	cagttctaag	taagaatctg	10800
tattcatgaa	taactgttca	gcatatgact	cagcccaagg	tgtacaggat	tgctggagtg	10860
tggaaggtat	gttggctcct	gcctgtacta	gcaacaaggc	ttaatctagt	gaacagaaag	10920
gatcaaaggt	ggctatatcc	ccacctaaat	gtccatgatc	tacaagtgct	cttctagctg	10980
gcagagtggg	tcagtaatga	gattttgtat	ctcattatat	gaagttctaa	gcactgaacc	11040
taatcagtta	cccatcactt	aagtagacag	tgtcaggcag	agcttaactc	tccttcctat	11100
tttcctttgt	cttccttttc	tctgtaagtt	ctctaacata	aggaacttcc	attttggtga	11160
aagaatagaa	aagttgaggg	acaggccagg	tgtgttgtaa	gtaagactga	tccagctgat	11220
tggtttgcca	tttagattgc	atggcagaca	tctgccataa	gcacttaaaa	cacaccttca	11280

ataggcatta gaaagcacac acacggccaa acatagtagc tcacacctgt aatgccaata ctttgtgagg ctgaggcagg aggattgctt gagcccagca gttcaagacc agcctgggca atatagcaag atgccatctc tacaaaaaat tttaaaatta tctgaatgtg gtagtacatt cctgtggtct cagctactca ggggtctgag gtcggaagat cacttgagcc caggagatca aggctgcagt gagccatgac tgtgccattg cactccagcc tttgcgacag agcaagaccc tgcctcaaaa cacacacact gactagggat ggtggcttat gcccagcact ttaggaggct 11640 11700 gaggcaggca gatcacttga ggtcaggagt ttaagaccag cctggccaac atggtgaaac cctactctac taaaaataca aaaatcagcc atgcggccag gtgcagtggc tctcgcctgt 11760 aatcccagca ctttgggaag ctaaggcagg aggatcacct gaggtcagga gttcgagacc 11820 11880 agcctgacca acatggtgaa atcctgtctc tactaaaaat acaaaattag ccccgtgtgg tggcgcctgc ctgtaatccc agctacttgg gaggctgagg caggagaatc acttgaaccc 11940 aggaggcaga ggttacggtg agccgagatc acgccattgc actccagcct gggcaacaag 12000 agcgaaactc catctcaaaa aaaaaaaaag aaaagaaaat cagccatgca tggtgacaca 12060 12120 cagttgtaat cccatctacc tgggaggctg aggcaggaga atcgcttgaa cctgggaggc agaggttgca gtaagccaag attgcaccac tgcactccag cctgggcaac agagtgagac 12180 12240 tgtgtcttga aacacacaca cacacacaca cacacacaca cacacacaca cacacacaca taatttgctg ttgttttggg ggcatggcgg cacataccta tagtcctagc tacttgggag 12300 gctcaggcag gaggatcact tgaacccagg aagttgaaac tgcagtgagc tgtgattgtg 12360 ccgctgcact ccagcctggg caacagagtg aagtactgtc tcaagaaaat aaaaaaataa 12420 agaaataaaa acataaggtt tagatggcaa ctttaaaatg tgaaaggagg atatacagtt 12480 tttcaaaatt cttctaggag ctatgccagc aaaaaggttt gaagacctga agaccattat 12540 atcagtggca taaacatctt taatttgtcc ttttccttct cctacaccta gtcaattgat 12600 ttttttttc ccatttatca atttcagact ctgcctggtt tttcactttc ccatccattt 12660 12720 tgttacaata tttttcctcc cttgaaatta gcccagtctc ttggagtgaa tgccccatgc tccttcctac cgctgtgtct ttactacatt atcctccctt ggaatgccgt catctcttct 12780 ctgttcaaga actacttctc ccgaccactg tggtcgagat tgatttctct ttaacctcta 12840 caacattggc tattccatac agttagccct tagcatagaa catcattgtt tgattttgct 12900 ccttaagaat agaaagcacc tcttaaaatt ctaccatatt cccccaatgc ctaatgcaat 12960 13020 gctaaccaca tagtgagtgc ttaataaata ttgtattgac tgcctagagt acagagcact tgttcactca ttgttcggcc attcagctaa tactttttga gaaattttgt gtaccaggaa 13080 ctgtactatg cactggggta cggtagggac taaagtagat gataatccct gctttgaaag 13200 actgaaaagt aagatatatg gtatgtcaaa aggtaataag tactgagaag aaaaatagaa aaagcaggaa agaagaacaa gaagtgtgtg atgggggagg gttacagggt ggggaggggt agtgttgtat acacttctag ataagatagg gaagtcctca ctgatactta tggtgacatt ttacaaagga cctgaggtgt aggaaggatt tgagcttatc tgtgcaaaga gccttccagg caaggaactt accatgtgaa ggcaccaagg ctggacctgc ttaacattcc aggaagggaa agctttgggg ctggagcaga agggtagagg ccagattgag agatgagtca gaggacagtg gggcccgggc agagggacag aacctgcggg tgctggcaat cagccttttg atctgagtga gaatagaggc cttgagaggg ctttgagcag aggagtgacc tgctgactta agttgaatag 13680 aaccctctag atgcttcatt aaggctagac tgaagggagg caaaggcagg gtgagatcag tcaggaggca agtatataat gataatacat tgaatataat aatgatatat taataataat 13740 13800 aatccagaga tagtggcaac tcagaccagg ggaagcagta gaggcggaga gaagtggtca 13860 gattttggat ttattttgaa ggtagaacag acaggattgc tgactctgtt gagtagtcag ctgggagcta ttgatggttt ctgagcagga gctgaaggaa gattaccccg gtataggact gctgggaaga cgtggtgcag gcagagatca ggtaggaggc cattgcaagg atttaagggt 13980 gagatccata agggttttaa ctgcaaatca gcagaggaaa aagggagtgg tgatggtcat ggtgacagtg atggtgagag agactggaaa ggaggaatca acaggatttc atgactagat 14100 aacagagaac caatatgaag aaggaaaaca ctttttttt ttttttgaga cggagtctgg 14160 ctctgttgcc caggctggag tacagtgaga cgatctcagc tcactgcaac ctccgcctcc 14220 tgggttcaag cgattctcct gcctcagcct cctgagtagc tgggattaca ggcatgcacc 14280 accacgcccg gctaattttt gtatttttag tagagatggg gtttcaccat gttggtcagg 14340 ctggtcttga actcttgacc tggtgatccg cctgccttgg cctcccaaag tgctgggatt 14400 14460 acagacgtgg agccaccatg ccctggcagg aaaacacact tttgaatgtt gtgtgacctg gagaatggta acactgttaa tttaaaaaaa aaaaaaaagc ccagagaagg ctgatttagg 14520 gagaaattta tgccttagtt atacagagtt tgagatggta atgaaatatc aaattaaaac tgtccagcaa ggaagtagga aatgtggaac tgaaaaagaa gttagaacta aagatgtgga 14700 tctgtctttg gcataaagat tatattaagt tacttgagag tagatgagtt tccaaagaag cagtgtagca agaatagtgg agggccaaga ctggatcctg ggggtcagca acatctagga 14820 gccagaaaaa atgccttcgg tgaaagaaac ggaaagatgg gtctattcaa attgtagtca 14880 gccaacccat gccagaagta agcacagaaa gtaagagtga acattggcca agcacagtgg ctgatgcctg taatcccaac actttgggag gccaaggcgg gcagattgct tgagctcagg 14940 agttcgagac cagcctgagc aacatggtga aactccaact ctacaagaaa ttagccggtc 15000 ctgtgcacac ctgtagtccc agctgctagg gaggctcagg tgggaggatc acttgaacct agaaagttga ggctgcagtg agctgtgagc atgccactgc actccagcgt gggcaacagc 15120 ccggtggctc acgcctgtaa tcccagcact ttgggacgcc aaggcaggtc gatcacttga ggtcaggagt tcgagactag cctggccaac atggagaaac cccatctcta ctgaaaatac 15240 aaaaattagc tgggcatggt ggtgcacacc tgtaatccca gctactcggg aggctgagac 15300 aggagaatca cttgaacctg ggaagcggag gttgccgtga gccaagatca tgccactgca 15360 cttcagcctg gacaacacag agagactctg tcccaaaggg aaaaaaaaga aaaagatcca 15420 ggagatccat tcctaggtat atacccaaga gaattgaaaa cataaaaaca tatgttcaca 15480 caaaaacttg tacatgggct catacctgta attgcagcac tctgggaggc caaagcagga 15540 ggatcatttg aggccaggag ttcaagaccg gcctaggcaa catagtgaga ccctgtctct acaaaatgca tgaatgtttg tagcagcatt cttcataatg ttcctaaagt ggaaacaacc 15660 15720 cagttgtttg tcagctgatg aatgggtaga ttatatgcag agtatccagg ctgggcgtag 15780 tggctcatgc ctgcaatcct agcactttgg gaagctgagg tggacagatc atttgagctc 15840 aggaattcaa gaccagcctg agcaacatag tgagaccttg tctataaaaa atttttaaat 15900 gttaaaaaaa agaatgcaga gtatccatac aacgggatat tattcagcca taaacaggaa 15960 tgaagtactg atacatgcta caacatggat gaaccttgaa aacatgctaa gtgaaataag 16020 ccagacacaa aggtctacac attgcctgac gccatttata tgaaacacct agaataggcc 16080 aatctataga gacataaagt agatgaatgg ttgccaggct ctgggagtta agagagaatg ggaaatgact gccaacatgt atggggtttc tacttgaggt gatgaagata ttctgaaatt 16140 agatagatag tggggatggc tgcacaacct ttttttttt tctttttgag atggagtctc 16200 gctctgttgc caggctggag tgcagtggcg caatctcagc tcactgcaat ctctgcctcc 16260 tgggttcaag caattctcct ccctcagcct cctgagtagc tgggactaca ggcaggcacc 16320 accacgccca gctaattttt tgttagtaga gacagggttt caccatgttg gccaggatgg 16380 tcttgatctc ctgacctcgt gatctgccct cctccggctc ccaaagtgct gggattacag 16440 gcataagcca ccatgcccgg cgacaacctt ttgaatatac taaaaaacat tacattttac 16500 actttgaagg gtgaatttta tggtaaatta tatctcagta gaaaaaaatc caggaaactg 16560 tgtatagtca gccctccata tttgtgggtt ccacattcat ggattctaag ctaaataata 16620 16680 tttacattat attaggtatt atgagtaatc cagagatgat ttaaagtgta tgtgaagatg 16740 tgcataggtt acatgcaata ctacaccata ttatataagg gacttgagca tctgtggtgt 16800 ctgctgcgag tactagaacc aatccttcat ggacaccaag agataactgt attcaaaacc 16860 16920 aatgaaacca gtgaaagaga agtttcaaaa agattgaaaa cacagcaggg cagtcaagga 16980 aaccagggag aaaggaaaga ctagtggatt tgggtattag aagatgaaag attaaaacaa atcattccat atcagcatgc agtccataga ctactcctaa aagttcctga gacttcttta 17040 aggaatctct ttggggtaaa aattattttc atgatactac taagatgtat ttgtcttttc 17100 cctatgttga cacttgcact gatgttgcaa aatggtggta aaactgctgg cgccttagca 17160 caaatcagga cggtgacacc aaactgtacc agtggtcact gcattcttta ctgccatgca 17220 ctcacaatca aaacagagcc agtttcactt aagaatcgtt gatgaagtgg taaatttttt 17280 ttgttttttt tttttgaggc agggtcttac ccaggctaga gtgcggtggg ggcatcacag 17340 ctcactgccg cctcaacttc ctgggctcag gtgatgctac ctcagcctcc tgagtagctg 17400 17460 tttttagaga tggggtttca ctctgtcgcc caggctaaat attgttaatt gtatcaaatg 17520 tcagtccttg aataaatctt ttttttttaa ctggtatgca ccaccacacc cagctaattt 17580 17640 ttgtattttt agtagagacg gggtttcgcc atgttggcca ggctggtctg gaactcctga cctaaagtga tctacccgtc ttggcctccc agagtgctgg gaggtgtggg ccaccatgcc 17700 tgatcctgag tacatctttt taaacttgtt tgaagaaatg ggaaatatgc ataaaccgcc 17760 tctgctgcac actggtagag tacggtggtt gtcacaagga aaagcatttg ggcgattatt 17820 caagttgcat attgatttag cagcttcttt tttcaccgac caccattttt acttgaaaga 17880 atgatagaca aactatggtt ttagacttag gcatctggca gacagtctct tgaaactgta 17940 tgaagtgagc ctgtcacttc aaggtaaaca aatgacaata tttgtagcca gtgataaaat ttacactttc aagtaaaaat tagaattttg gaaaacttgt atccactccc atgagcttga 18060 ccacttttca atatacag acttttctgc tgaaatcaat ggtgaaattt aaggaatatg attttttgat atgtattcta atgaaatatg tcagtattta gaagatctgc ctaacaacag ggaaccagta ttttgcagtg atctatgtgt gatgttacaa agtcatgcat ggtaaaatat 18240 ccattcaaag tgcaagagaa gccaatgggt tttattataa caaaagttcc taactgttaa 18300 gaaactacta cttgtcaagt tttgatgtag cgctaaagaa tatccaaaat tatctgaaaa tgcagatact ttctctgtct gtgtaaagcc agattttctt tgtatatttt aaccaaacta 18420 18480 acatattaca acagattaaa tgcagaagca gatttgagaa tccagtcatc ttctattaag 18540 tcagacagag gccataaatt tatgaaaatg taaaacagtg gcattcttct cattagatgg ctttatttct ttgattgttt tgggaaatat agtggtttac atttaaagta tgttatttat

attaatataa tgtgtagtag ttttactgtt aatattttta ctgaattaat catatctttt tgttgcctag tctggagcac agtggcgtga tctcagctca ctacaacccc cacctcctgg 18780 gttcaagcga ttctcctgcc tcagcctccc aagtagctgg gatcacaggc gcctgccacc 18840 atgtctggct ggtttttgta tttttagtag ggtttcacca tgttggccag gatggtctca 18900 18960 aactcctgac ctcaagtgat ccacccacct cggcctccca aagcattggg attacaggag tgagccacca cacccagttt ttagtcttat tttctaacac agtagacatt gatatatagt 19020 tcccacatta acaaaagttg tttggggtgc tcaatttatt tatttattta tttatttatt 19080 tatttattta ttttatttta attttctttt tgaggcggag tctcactgtg tcgcccaggc 19140 tggagtgcag tggcacaatc tcggctcact gcaagctctg cctcccaggt tcacaccatt 19200 ctcctgcctc agcctcccga gtagctgggg ctacaggtgc ccgccaccac acccggctaa 19260 ttttttgtat ttttagtaga gacagggttt caccatgtta accaggatgg tctcgatctc 19320 ctgacctcgt gatccgcccg cctcagcctc ccgaagtgct gggattacag gcatgagcca ccgtgccccg cttatatttt ttttattttt atttatttat ttatttattt ttgagacagg gtctcaaaaa aaacaacttt gttgcccagg ctggagtgca gtggcatcat cgtagctcat tgtagcttct gtctccccag actcaggtga tcctcctgcc tcagcctctc aagtagctgg 19620 gactacaggc acgcaccacc caccccaccc aactattttt tttattttt gtagagacag agtcttgcta tgttgcccag gctggtctca aactcctggg ttccagtgat tctcccgtct 19680 19740 cagcetecca aagcaetggg attacaggtg tgagecacca eteccageca aatttaccag 19800 acttaatgga aacagtccat ttctgtttct tcagatgaaa cctcacaact ttaggattaa 19860 taagtaatct cacaactatt gtacaggaaa taagaaaacg ttcccgctaa caatgcacgt 19920 tqtqatagat ctggtccctg acacaaacag cacttggaac tgagtgaagt ccagagactg 19980 aataatacag ttctatccac tccctgtgct tgactacaac ccctgaagag ggcttgtaca 20040 aattaaatgt atcccagcag ctgcttgaaa gaccacagca ttggccgggc acggtgactc 20100 acgcttgtaa tcccagcact ttgggaggcc gaggcgggcg gatcacgagg tcaggagatc 20160 gagaccacgg tgaaaccctg tctctactaa aaatacaaaa aattagctgg gcgtgatggc 20220 gggcgcctgt agtcccagct actcggagag gctgaggcag gagaatggcg tgaacccggg aggcggagct tgcagtgagc cgagattgca ccactgcact ccagcctggg cgacagagac 20280 tctgtctcaa aaaaaaaaaa aaaaaacacg cattttgaat gtccctagca ttagggatta 20340 taaaggtccc attctagtag aagatcctca ggtttggagt gtactaaagg tcatcatcct 20400 20460 tcgcctgcta ataaatttct gaagtccctg ctttaaacaa acaatcaaaa agaaggaaca gttacagtgc tgccaaacaa gttcttttt tttttttgag atggagtttc gctcttgttg 20520 ccaggctgga gtgcaatggc gtgatctcgg ctcaccacaa cctccacctc ccaggttcaa 20580 gcaattctgc ctcagcctcc cgagtagctg ggattacagg catgcactac cacgcccagc 20640 taattttgta tttttttag tagagacagg gtttctccat gttgaggcta gtctcaaact 20700 cctgacctca ggtgatccgc ctgcctcggc ctcccaaagt gctgggatta caggcgtgag 20760 ccacggcgcc cggccaacaa gttcttacaa acctctgggt tgttacaaac ccatctggtg 20820 ctaataaagg taaggcatca accccaatct ccaagctgag aattttatcc tcaggactga 20880 20940 gcactgcggc ctgcattcgg atgttagtgg ggctgtcaga accgtgtctc atgctgttaa aagtggaagt ccttcccact cagacccacg gaagccaact ctgatgagtg ggagggtgag 21000 cagaaggggc ttcggtcatt ttttatagat tcttcaggta actctagcca ccatattaag 21060 cattggctcc cacaaaaaag cattaaggct cagaaacatc ttgtagggtc acaccctccc 21120 taaaaacagc acatccctga agtggtggct gggcagccag gctccaaagc ccgctgagct 21180 gagcggcagc caagaacaag gtttggtgtt tacatactca aaatcagcct gggttgtcac 21240 agcaactcac ctcagcacag ttcttccttc tccacggcgg cttgcttcca ggctttgctg ttctccgtca ccgtcttaac gttcctgcta acctggcctg ctgcattctt tttatttttc 21360 tcccaattcc tccgccttct tctcatgtgt ttgctagtgt gcaatacctc acctgtttgg 21420 aactcaacaa cgtcccctcc tgcaaaacgc acctgaaaac aagaaatagc acacaaggcc tctaagtggc cagaacagat gttaccaggc ctaagtccat aaggaaagca cccaagcccc 21540 ttgcttttgt cttaaatctt ttttttttta cacctttaaa ataaggttat ggtttctaag 21600 gcctgccgta aattaggagt agggagagga actattgcca agcaccccaa aagttcaaga 21660 ggtgactgtt gatcccagag tagcaaggaa agggacagac aggctataag aagtggacac 21720 aagaactcag aactcaggac agtgtaggcc ttgttagagt caggcagaca atttcacata 21780 cctcagaacg tcataaagcc atcatgactt tactctggaa tagatacgat ccagacacct 21840 agaaaatgtt aaattagatt caacttaaag aggcagagta atatgtgtgg tgttttttaa 21900 tttcgagcat tccaaatggt taagggtttt catgcttaaa gagagaaact tagctaccta 21960 gaacttattt atgagtgctc tagataatta tctactgttt tatattttt tatttatacc 22020 ccgttactaa aacaaaagta aaaataaagc aaaagattga aggcattgac atttagtcta 22080 22140 tatactttct agttcctggc tctagttctt agcaatattt gctgctaacc tggtgttctg tctctgccaa atttctgccc atgtgaaata tatgagactt gatcctattt ccttgctcat 22200 tgatctacct gaaagggtca tagatgtctc cacctcccta gagctagtga tcctatatcc 22260 catcatctca gccagctaga aaacgaacca tcacatgcca cctcctaccc aattacgtgc ttcataaaca gaatacctgg catatagcag gcatttacta aacacttggt gaatgaatac 22380 atgagccagt aatccataag atatctgtag aattaattac agttgagcct tgaacagcgc 22440 aggtcctatg ggatcccacc ccttgtacag tcaaaaatcc tcataaaact tttttttctt 22500 ttttttttga gacagaatct tgctcgttgc ccaagctgga gtgcaatggc gtgatctcag ctcactgcca cctccgcctc ctgggttcaa gcaattctcc tgcctcagct tcccaagtag gtgggattac aggtgcctgc accacgccta actaattttt gtatttttag tagagatggg gtttcaccat gttggccagg ctcgtctcaa actcctgatc tcaggcgacc cacccgccta 22800 agcctcccaa agtaggggat tacaggtgtg agctgccgca cccggccgac aggtgtaact 22860 ttttttttt tttttttt ttttgagaca gagtctcact ctgtcaccag gctggagtgc agtggctctc tctgctcact gcaatctctg ctcactgcaa cctctgcctc ccaggttcaa 22920 22980 gcgattcccc tgcctcagcc tcctgagtag ctgggactac aggtgtgtgc caccatgccc 23040 agctaatttt ttgtatttta gtagagacgg aatttcacca tgttagccag gatggtctcg 23100 atttcctgac ctcgtgatcc acctgcttca gcctcccaaa gtgctgagat tacaggcatg 23160 agccaccaca cccggccaca tataactttt gactctccaa aaacttaact actaatagaa 23220 gacttaccaa tagcataaac aagttgatta acatatattt tgtatgtcat ttgtgttata 23280 gcaagaaaaa atatgtttac tcttcattca gtggaagtgg atcagcataa aggtcttcct 23340 23400 cctcatgatc ttcaggttga gcaggcaagg aggaggagaa agagaaaggg ttgccatctc agcagtggca gaggcagagg gaagtctaag gggacccttg ctgttcaaaa ttgtgttgat 23460 23520 agcaattaaa aaaaaaaca ccagttggcc gggcgtggtg gctcacgcct gtaatcctag 23580 cactttggga ggccaaggca ggtggatcac ctgaggtcag gagttcgaga ccagcctggc 23640 caacatggtg aaataccgtc tctactaaaa atacaaaaat tcactgggca tggtggcggg 23700 23760 cacctgtaat cccagctact tgggaggctg aagcaggaga atcgcttgaa cctaggggcc ggaggttgca gtgagctgcc aagatcgtgc cattgcactc tccagcctgg gtaaaaacag 23820 ctaaactcca tctcaaaaaa aaaaaaaaac accagttgat cctggcacca ggaagatcaa 23880 atggcatttg tttgtttgtt tgttttgaga cagagtctcg ctctgttgcc caagctggag 23940 tgcaatggca cgatctcagc tcactgcaaa ctctgcctcc caggttcaag tgattctcct 24000 gcctcagcct cccgagtagc tgggattaca ggcacccgcc accacaccca gctaattttt 24060 24120 tatatttttg gtagagatgg ggtttcacca tgttggccag tatggtctca aactccggat 24180 ctcaagtgat ccaccacct cagcctccca aagtgccttg gtttacaggc gtgagccact 24240 gcaccagcca gtacagtttt ttgttttgtt ttattttggt tttttgagac ggaatctcgc tctgtcgccc aggctggagt gcagtggtgc catctcagct cactgcaagc tccgcctccc gtgttcatgc cattctcctg cctcagcctc cctagtagct gggactatag gcgcccgcca ccacacccgg ctaatttttt tttttgtatt tttagtagag acggggtttc accgtgttag ccaggatagt ctcgatctcc tgtcctcatg atccgcccgt ctcagcctcc catagtgctg ggattacagg catgagccac cgcgcccagc ctttttttt tttttttt taatgtatgg 24540 gggaaaaatg actagaagga cagaaaccaa catataacat gattgtgtgc atttacttat ttaacaaata attgagcaat ttatttctgt atgatactat tctaagcgtt ttagagttaa gcaaactcac agtaaactgt attgcccatg ataaaaactg cagttacata atttaaaagc aagaatcgca gcaattcatc aggcacagtg actcacgcct gtaatcccaa cactttggga 24840 ggccaaggca ggaagattcc ttgagcccag gaggtcaagg ccagcctggg caacatagtg 24900 agaactcatg tccacaaaaa ttacaaaata gccaggcatg gtggcaagca cctgtggtcc cagctactca agaggctgaa gttggaggat cacttgagcc caggaggtca aggctgcagt 24960 gagcgatgat cgtgccactg cactccagcc tgggtgacag agcaagagac cctgtctcaa aataaataaa aataaaagca agaattgcag aaagtataaa ccatgaccaa ctcaagagaa taatcaatga aagaataggc agaatgtctt tccaaaaagc agttgagaga tccccatcct ccacatatgc actagtgcag tggggatgtt gccaggcatg gccgccagac ctctagatag 25200 aacactgaag gtgagtctgc agtaaagcca tggaatgtgc taattttagt ttaggaatac caaattttat tgaccgtttt taattcaata agcaaccctt ggccatgtat aatcagttca tgacccatca gaagatcctc tgtggttcac tcatggcctt tggactatac tctgaatcat 25380 ggctttagaa gacatttttt tagtatactt aaatggattt tataacttgg ttgatgccca gattacagac tgtgaggagt atctccacat aacttgtaac tgctatatat gcagtcagca 25500 attccagtat ttagcctgat attaatttat atttttcctc ataatctgat aatacagtgc 25620 tagcaagata gatcacaaag tgtaaatgag tgtttctgga gcatagatgg gtacgctcaa atctttgtat cttgtttttt aatagagacg gggtttcgct atgttgctca ggctggtgtc gaactcctcg gctcaagcaa tccccttgcc tcagcctccc agagtgctgg gattatacat 25740 gggagccacc atgcctagct tccttgtatc attttttaaa attcaagtaa gagaaaatgt ctggcaatag ttcataagct ataaatgaaa cctagtctta ggacccagct ttatattgcc 25860 tcaatcaaat attaatatct ttagttcaaa atttgtattt acaaaaaact tttggttctt

ggggataccg ttattgcctt ctctgttgcc atccatataa tgtatgttgt ttttttttc 25980 tctctcctc tgggctgcgt ttcatgccag ataaacttcc aaaccaaact gggatggcac caggcacaaa taacactctt cttatctttt cccccatcta ggttacccct ttgctttgtt ttatcggcat taccttttct acaaggagac ctacctcatc cacctcttcc atacctttac aggcctctca attgcttatt ttaactttgg tgagtaaact aaattagcag tgacaccgca attagtggga acctggaagg aacagacttg aacaaaattt ccttgagaga atctaatagg tagggaagtt ataatgctcc cacttgcaaa gagggttgta tgaagaggaa cacagcttaa cttttccttt ttttctttta tgtacattct tctgtcagat aaaaacattt tgagggtggt taccettgcc ataceteate aacaaagaat ceteagttte tetgtgetgt ggatgtaact qaatqaccga gccaagcagt ccccacttag attcattctt cacttcagac attcaaaaat acagtaacaa gctgggtgtg gtagcccgga attcaaggct gcagtgagct atgattgagc tactgcactc aagtctggac aacagagcaa gtcgcatctc taaaaaaaaca aacaaaaaaa 26640 26700 26760 ctcctccaaa acatgaggtt attctgaaaa aaaagatcct gatgccaaca ttttttcttt 26820 atatattacg ttgtgattgg aagtctcagg acggtgggag tgtaaaaacc aggctaaatt 26880 ctctcttctt gcatccagga aaccagctct accactccct gctgtgtatt gtgcttcagt tecteatect tegactaatg ggeegeacea teaetgeegt ceteaetace ttttgettee 26940 27000 agatggtaaa cgtctttccc ttagcagctc aggctacagc tgacagcggt tcaggggaca ggggtaggca ggggactgtg gtatagaaat tagcagacct aatttctaac ccctctccca 27060 27120 gcacttagca gtatgacttc aggtaggtgg cttatcacag gcccaagtgt tccatccaca gattgtaatg gtaactcttt gcctgcctca aggaagggcc accagctaac cctttgcata 27180 ctgtgccatt aggctctttg gtttaaccca ctatccagga gcagagtcac ttcaaggcaa 27240 gacagaaaag caacttagaa tgagttaaag aacctaagcc taggccaggc aaagtggctc acacctgtaa tcccagcacc ttgggaggcc aaggcagtca gattgcttga gcccaggagt 27360 ttgagactaa cccgggcaac atggtgaaac cccatctcta caaaaaaaat acaaaaatta 27420 27480 gcatgcacct gtggtcccag catctaaatt ctcatctcag tttagccctc attttgccaa 27540 27600 gaagccttga gcaacgctct tcccattaca ggttttcagc acctccattt gtaggaattt attaaggctt ttaatgatgg gatgaggaga aaggaaaaag gaaagagaac attgaatttc 27660 agagcaagga gaagaaatag tagtgatgct agaataaata cttctgcctc tcctaggcct 27720 27780 accttctggc tggatactat tacactgcca ccggcaacta cgatatcaag tggacaatgc 27840 cacattgtgt tctgactttg aagctgattg gtgagtgatg gtcactgcct gccttcctta catgtaggtc cctccccat ctcactaaaa acttcctcgg cacccccct ccgccccccg 27900 ccatacactt ctggctgcac tcagtctaca ggccacatcc tcagtgtcct ctcccaccac 27960 cctacccatc cgttctctct ctgctcaggt ttggctgttg actactttga cggagggaaa 28020 gatcaggtaa gtacccattc atcggcagag aggttcaaga cttaatgaaa gggaagaaaa 28080 aagttgttaa caaaagactg aacccaaatt ccagagcgga gcctctccct cattccccag 28140 cctgtgcaat ctccctttca gatagcactg agcaaggatc aacaaatcta atttgcccag 28200 gatccagctc ttgcacaaag tccagagatc aatgccagca aggcatttgc taaagcagca 28260 acagecaget atgeacaeac ataegeattt ecaeaagaag caactatttg teateceeca 28320 aagagaaggc tatttgaaga accccagtca gtggggcaca caggtgggga acactcaaag 28380 tggctcttgt ggggagattc aaggctatcc tgaaccatgc attctcttct tggcatagaa 28440 ttccttgtcc tctgagcaac agaaatatgc catacgtggt gttccttccc tgctggaagt 28500 tgctggtttc tcctacttct atggggcctt cttggtaggg ccccagttct caatgaatca 28560 ctacatgaag ctggtgcagg gagagctgat tgacatacca ggaaagatac caaacaggta 28620 attgcccctc ttggtccaga tgtttgtgta ggtatttcac tcactctgaa gtgactcttc 28680 tgaaagctgc attctccagc atgaccctgg catagagacc tgagtcatgc aggccctgga 28740 ctgttgtaac aggcactctg tgccaggagt gggccctttt tagtttaggg ttcttccagt 28800 tatccattct aacactagta caaacataaa aatccacatt tatgccacag gattttgcct 28860 gaaccagtca catttctgcc tttaaagcct attttcatgt atatatgaaa tatatttatg 28920 28980 attgataggt aggtaggcag gttgataggt aggtaggtag atagaggctg ggcacagtgg tttcacctct ataatcccag cactttggga ggccgaggtg ggaggatcac ttgagcccgt 29040 29100 gagttctaga ccagcctggc aacatagaga gactctgtct ctacaaaaaa atacaaaaat 29160 tatcagacat agtggcatgc atctgtagtc caagctacat aggaggctga agtgggagaa ttgcttgagt ccaggggagg tgggtcaagg ctgcagtgag ctttgatcac accactgcac 29220 tccattctgg gcaacatagc aaaatcctgt ctcaaaaata tttatcagta ggaaatgcag 29280 gagggcacag tggctcatgc ctgtaatgcc aacgctctgg gaggccaagg caggaggatc 29340 29400 actggaggcc aggagttcaa gaccagcctg ggcaacatag tgagacccca tctctacaaa 29460 aaaaaattat ccaggcaagg tggtacatgc ctatagtccc agctactcag gtggccaagg 29520 caaggggatc gcttgagccc aggagttcaa ggccacagcg agcaatgact atgcctctgt actctagccg gagtggcaga gcaaggccct gactctagaa aataaaaatt aaaatggtaa

29640 aaaaaaaaaa aaaaaaaaag tttaattgcc agaagaattc cttcactgag aacttgtcca 29700 tcctgtgttt cagcatcaat tcaaccaaga aatgaaggag cagattcaaa gtggttattt ttattatctt acctccactg ggttttcagt cccaatggag attgtgagac ctggcaagac 29760 cttgagatca gtagcatccc tgaggggtaa acacaagact ggtccactgt ctgctgccct gactttccta caactcttaa gaggtttgca gtccccattc ctcatagcca gccatagaaa 29880 tctttccctg aaacaggaaa cactttgggc agcagagctt ctcatcccat tccaggtaga 29940 caaccacacc cctaaacact cctctccata actgaaggtc agagggtgaa gggaatagtc tctgctctct gtgaccagga acttcactcg ttcctttcca gcatcattcc tgctctcaag cqcctgagtc tgggcctttt ctacctagtg ggctacacac tgctcagccc ccacatcaca gaagactatc tcctcactga agactatgac gtgagtgtct actaaagcag cagcagcatg actgcaccag agctagaaaa tggacaggca aggatcccta cagatagcag agaagtagga 30300 aatatcatct acaagtgcat gttggttttg ctctagatct gtgagttgtc aatgccagcc 30360 gtgctgggac atgttcatca gccagcactg aacaaccttc gcgggcacag ggctgtgcca 30420 ggtgcacatt tagcacccgt tgccttctct aggagccgct cctagcttgc cttatcacat 30480 ccacgtgacc cctcagagca cagcagcttc tgattctcca tcctattttc ttctcttgac 30540 tgatacattt gggcacttct agggaattca gaaaccaagg gaagggggga agtgctggct tttgctcctg cccagctgaa aggcttgaaa acagttcagt aattctgggc aggtttctct 30600 30660 ccttaaatta aaatccaata tgggcccctc tgtacttaac attccaaatg ctcattccaa 30720 acactttgcc aacgaaggca aacagtagag aagttaaata cagtgctgcc cttgaggctc tccaagggaa aggcgaatga atattctcca ggccctctgc ttattcctct ctgcctattg 30780 tgaaggcaat caggccagac tattgagggc atctggcagc aggactcagg caggtatgaa 30840 gtagccagcc acaagtgtga aaaggaagag tgctgagaga aactgcctag tcatgtgata 30900 tccctaatgc actgtgcttt cttccctcaa gaaccacccc ttctggttcc gctgcatgta 30960 catgctgatc tggggcaagt ttgtgctgta caaatatgtc acctgttggc tggtcacagt 31020 aagtagaaaa gttgaaacaa ggtcctattt agacaagcca tgggggccag tatggggagt 31080 ggcaagagcc ctaactgagc tattccctct caggaaggag tatgcatttt gacgggcctg 31140 31200 ggcttcaatg gctttgaaga aaagggcaag gcaaagtggg atgcctgtgc caacatgaag gtgtggctct ttgaaacaaa cccccgcttc actggcacca ttgcctcatt caacatcaac 31260 accaacgcct gggtggcccg gtgagctgct ggtggggagc ctggaccctg gttccttcct 31320 tccactgtct tcccagattg gagggcaggg gtgtaccatg tcacccctat gcgtctttcc 31380 catctgggca gaaccccttg tcgctcacac tgactttgac ccccacctat accccctcc 31440 caaaaaaacc attactgtca tatttgaaaa aaaggcaaga tataaaagtg cgttaagacc 31500 tgggtgttac tccagctctg ccaatggact tatgtcctcc actgccctgt ttatcaacag 31560 31620 ctttacttgt ttgtccccac cactagagtg tgggcagctt gagtagagtg tctggttcac cactgatete ageateagee teagteactg etgetgaace aagtggeteg tgegeacaeg 31680 gtctccagct ccgccttggg tctgctttcc atctctaaaa gtaatcagtc agcactgcct 31740 cctgtaccct ctgggggcta cacgtgggaa cccaccagca ctccaatcca atcctcaggg 31800 tgaggaccca gaggcaggtg gcgggatgca aggaccagtc agtttgaggg tcgcccacc 31860 caccetttte tecagetaca tetteaaaeg acteaagtte ettggaaata aagaaetete 31920 tcagggtctc tcgttgctat tcctggccct ctggcacggc ctgcactcag gatacctggt ctgcttccag atggaattcc tcattgttat tgtggaaaga caggtaggcc tccagggtgg 32040 32100 gggtgaaggg gaatataagg gacaagatgc tgatgagctc ctcctccctc cccaggctgc caggeteatt caagagagee ceaceetgag caagetggee gecattactg teetecagee 32160 cttctactat ttggtgcaac agaccatcca ctggctcttc atgggttact ccatgactgc 32220 cttctgcctc ttcacgtggg acaaatggct taaggcaagt gaaggcctgc ttgtgagact gggagggact cactgcaacc tcaaaggttg caaaggacac tccaggcctg tctaccttag tggcctctct ctccacaggt gtataaatcc atctatttcc ttggccacat cttcttcctg 32400 agcctactat tcatattgcc ttatattcac aaagcaatgg tgccaaggaa agagaagtta aagaagatgg aataatccat ttccctggta agttaataca gctaaactaa aactaccacc aggttacaga atagagcaac agactggaaa aaaacaatag tattagaaat ctggggtgaa 32580 ttccaaggat tagcctggct actaaggaac acagtatggg caatgactac tgtgacttat tgaggcatgc taggaaacat ctggaagggc tatagaccag gaattacagg agtaactaac 32700 cagcetteca aacteetett gtettgeagg tggeetgtge gggaetggtg cagaaactae tcgtctccct tttcacagca ctcctttgcc ccagagcaga gaatggaaaa gccagggagg tggaagatcg atgcttccag ctgtgcctct gctgccagcc aagtcttcat ttggggccaa aggggaaact tttttttgga gaaggcgtct tgctttgtca cccacgctgg aatgcagtgg cgggatctca gctcaccgca acctccacct cctgggttca agtgattttc ctgcctcagc ctcccaagta gctgggaata caggcacgcc accatgccca gctaattttt gtatttcag tagaaacggg atttcaccac gttggccagg ctggtctcga actcctgacc gcaagtgatc 33180 cacccgcctc cgcctcccaa agtgctggga ttacaggcgt gagccaccgt gcccggccca aaggggaaac tettgtggga ggageagagg ggeteacate teecetetga tteeceecatg

cacattgcct tatctctccc catctagcca ggaatctatt gtgtttttct tctgccaatt tactatgatt gtgtatgtgc cgctaccacc accccccca tgggggggtg gagaggggtg caaqqccctq cctgctccac tttttctacc ttggaactgt attagataaa atcacttctg tttgttcagt ttttcaccac tagcattcct gactgctctc tttcacagtt cttctccatc atcagggttc tctcctttag cacatgggaa tctgggagct aaagcctgcc ttcaaagcat ggaaccaaac tgcaaactct gtaacctcct atctgtccct gaagtcccgg ggaacaaaca 33600 gttttacacc actggatact ttaggaaccc caaaacaacc aggtttgcaa gaacagtatt 33660 cataggataa acaaatagca aatgtacagc cttggcttcc ccaaactcca cagtctcagt 33720 33780 qcaqaaagat catcttccag cagtcagctc agaccagggt caaaggatgt gacatcaaca gtttctggtt tcagaacagg ttctactact gtcaaatgac cccccatact tcctcaaagg 33840 ctgtggtaag ttttgcacag gtgagggcag cagaaagggg gtagttactg atggacacca 33900 tcttctctgt atactccaca ctgacctaag aaaagaacag ttttgtcagc caactctgtc 33960 actcagtagc tgtttcagcc cttctttagg gcaggaaaac tatggctgag ctagtatttc 34020 agctgtgctg ttgaatatca aatccctaca aaggatgaag aaggtcctaa ctgtgacttc 34140 caattatggc agcagccctc aaaggatgtg ccctggggca gggtgtggaa ctgtcatgtg tcttctagct cattgtaagc attgttaaaa tgcctactgc tctgggaatt ctatactaag 34200 34260 ttcagctcta ccaagaattt cagggttgag cccagacctt accttgccat gggcaaaggc 34320 ccctaccaca aaaacaatag gatcactgct gggcaccagc tcacgcacat cactgacaac 34380 cgggatggaa aaagaagtgc caactttcat acatccaact ggaaagtgat ctgatactgg 34440 attettaatt acctaaagta aaaaagagag aaaagteage cecagaaaca tteecagaac 34500 cagcetteaa etaacaggtt teaatacete acetteaaaa gettetgggg gecateaget gctcgaacac tgagcttgtg taaaagttga actagaaggg ggaaaaaaaga gttcagagct 34560 agatggagac cacagtcctt ctgtccagtc atcgaacaag gaaaacccca tggataagat 34620 gagttccctg tgtgctttat atctagactg gactcctgaa atgttaggaa caaacagttg 34680 34740 ccaagcatat ggctagctgt acagtgatgg gttcagactc cctctttcac tcagccagga 34800 agctactgca agaacaggag tggagtttcc acaaacatag aaaaataata acagtccttg tcctggtatt aatcatgttg ttctcccatt ttctcgctta aaaatccaca tttagttctc 34860 ccttttcctc ttcctcctt cttccctact gacaagttca ttctaacttt gttctaaggc 34920 34980 ttcttaccca tgaggccaca aaagcggtca aaggttctgg gaattcgggt ctgggggattc acttcaatca gaacattctt ctgtgtatgg atataaacct gtagcaagcc agctcggttc 35040 aggggactat ccatcagcat cagcaaactc tgagcaaagc agaaaccgag acatggttaa 35100 ggctgaagag aggcagcact cagctgccaa cccttccata cagaggctca aagggttgtg 35160 agcactgtcc ctggagttac ctggtgggtg atatctggcc gcgcttcccc agggtcccgt 35220 ccattcttca acaatataga cttgtgcttg tcacagttga gtagctcata tgtcttccct 35280 acctgaagaa cagggaacat gacgagagaa cagcataagc ttctgttacc tagccccgtg 35340 gttcttcaag tgtggtcccc aaactaccag cagcagctgc acctggaaac ttgttaggca aattctcagg cccaccctag acctactaaa ccaggaacac tgggggtgga gcccagcaag 35460 cccttcgggg gattactgtg cagccttatt tgcactcccc agtgaatggt ctgagaggga 35520 aacaggagga agggcacaac ctgtgacttc acattatcta ctaatacact ggatttaatt 35580 aaaaaacctg tggctgttag gcaaggccaa tgagacatcc tggaactagg caggagttag 35640 tagttagcaa ggctgaatgc tgtgtttatt acaggagcag taagtaggta ctgtgcaaaa 35700 tatcgagtca ccaccctcag tttgcgtaca ccaaacatgc actaagtgaa gagctgcaaa tctgaacaag aaatgtgaag gccgggcgtg gtggctcacg cctgtaatcc cagcactttg 35820 ggaggccgag gcgggcagat cacaaggtca ggagattgag accatcgtgg ctaacacggt 35880 gaaaccccat ctctactaaa aatataaaaa attagccggg catggtggca ggcgcctgta 35940 gtcccagcta cttgggaggc agaggcagga gaatggcatg aacccaggag gcggagcttg 36000 cagcgccact gcactccagc ccgggcaaca gagcgagact ccatctcaaa aaaaagaaat 36060 gtgaaaacta atgatgcagg aggcagttta atcaaagaaa actctcagaa gtaaaaggaa 36120 gaggggttat tcccagtttt aagacgggca tgggggcaga tgcagtggct cacggctgta 36180 atcccagcac tctgggaggc caaggcaggc aaatcactta aggtcaggag ttcaagacca 36240 gcctgggcaa catggcgaaa ccccatctct actaaaaata caaaaattag ctgggcatgg 36300 tggcacatgc ctgtagtcct agctacttgg gaggctaagg tgggaggatg gcttgagccc 36360 aggagacaga gattgcagtg agccaagact gtaccactgc actccagcaa gaccctgtct 36420 36480 caaaaaaaag aaaaaagaaa gactggcatg agcaaaggta cagatggaat caagacaaag 36540 tagccaggtg tggtggctta tgcctgtgat cccaacactt taggaggccg aggtggaagg 36600 atcacttgag cccaggaatt tgagaccggc ctgggcaaca cggtgggacc ctgtctcaca 36660 aaaaaaaaa aaaaaattag ccaggcgcag tgccatttgc tggcagtccc agttactcag 36720 gaggatgagg tgggaggact gcttgagcca gggaagtaga ggctgcagtg aaccatcaca 36780 ccactgcact ctgttgccca ggcaacagag caagacccta tctcaaaaaa gaaacaaaaa agaaaaagtg gaaacgaaga aaggaaattt tgaggaaaat tgggagctga gacactaaag 36840 ggcagtgatt atatatgaag ctgctttgta aaccacagaa tcctaatgta tcaagcacaa 36900

```
36960
agccaaaaat aattctggag taagcagggc aggatgggaa tgactgacag acactatcct
                                                                  37020
aacaactctc tqtacactgg aaaagacatc agaagtttga tgttaaagaa gtggactaca
tctgtagcag ctaaaagaaa taattccaag ttgcaatttg gagtcccaag gagcattagg
                                                                  37080
gtggtcagta aaaagtctaa aaacaaactg ttatatacaa atacaagttt tggaaggtta
                                                                  37140
agtttttatg tatcactgga atgtatatgt ctagcaacat tcttgagata tatggctcca
                                                                  37200
                                                                  37260
aaaagtctgc gaaaaaaggg atgtagattt tgaaattgaa tagttgaagt aatgtcacag
agagcacaaa gaacaaatga ccaagaacta agtccatgag acacccttag ttatagaaga
                                                                  37320
aaaaaacctt cttgaatgaa taatacagtt tcaacccatt agtaggatat aatcatgttt
                                                                  37380
tctattcttt taatagatta caggcgcagg cctgtaatcc cagctactct ggaggctgag
gcaggagaat cgattgaacc cgggaggcgg aggctgcagt gagccaagat cgtgccactg
cactccagcc tggtagagac tgagactcca tctcaaaaaa aaaaaaaaa aaaagtgtat
                                                                  37560
ttagaacgaa gattaaaatc ctggcctgac ttctaaacca atgcgatttc ttctgggcct
                                                                  37620
                                                                  37680
attcaattag ttctaacggg taagagaaag gaggaggaag aacactgccc aaggctttaa
                                                                  37740
gatagagaac tgctggttct attacatgtg gggaaagaga tgaatgatag ataaaaatgc
                                                                  37800
agatqtaaaa gttttaaata ataaccaggt ctggacagtg tatcataggt ggatattaga
                                                                  37860
gagaggtgac tatggatact aatgaattga aacacgaagc ccttacaaaa agtgtgggca
gactaggcta cataactacg tttctcatct gcccagtaac ttgtcttggg atgtggaatg
                                                                  37920
                                                                  37980
acgcaaggaa cgaaactttc ctctgcttag actactatac cacagaatcc tggtaaacca
attggaagca aggaggtgag ggctagaata tcattcaaaa agagcaaaag aaaatgagta
                                                                  38040
ctaccggccg ggcacagtgg ctcacgcctc taatcccaac actttgggag gccgaggcgg
                                                                  38100
gcggatcact tgaggtcagg agttcgagac cagcgtggcc aacatggtga aaccccatct
                                                                  38160
gaactaaaaa tacaaaaaaa ttagccgggc gtggtggcac ctgcctgtag tcccagctac
                                                                  38220
tccagaggct gagtcaggag aactgtttga aggcgggagg cagaagttgc agtgagccga
                                                                  38280
38340
aaaaaagaaa gaaaaatgag tactaccatc ccaggatgtc aaatcaacgc aaagccaacc
                                                                  38400
                                                                  38460
aagccacctt ccttcaaaag catctttcac ccctctctgc tttctacatc cactctgggc
cccttaccct cattccacgg agtcccaacc tatcgattta ctacttctcc acttcctgtc
                                                                  38520
ccaaactacc ttgactgtct ccagactggc cccttccagc accacaataa gcctacggcc
                                                                  38580
tccgatcttg tttcctgccc ctagtcgggg ccgcttgggt ggcagagcat cccagtcctg
                                                                  38640
tgcctgctcc ccaccgcttc gttcacgagg cttgaatcca tcactgggcg cggccatctt
                                                                  38700
gcaacaatac cggaagttgc gctaacgctc ttaaataaga acagcgcggc ttctaatcac
                                                                  38760
                                                                  38771
aaatttcctt c
<210> 12697
<211> 793
<212> DNA
<213> Homo sapiens
<400> 12697
                                                                     60
cctgtatgta gctccagcta cttggaaggc taagatggga ggatggcttg agcccaagag
                                                                    120
cagagcccgc aatgagtgga gatcgtgcca ctgcattcca ggctgggcaa cagaatgaga
                                                                    180
ctctgtctca aaaaaataaa aaaaaagaaa agataaacag taaaatggaa tcagaggagg
                                                                    240
aggtaatgcc aagagttcca ctattcattg aaaactaagg gagtatgttg tggaaagaga
                                                                    300
atgacagcag aagctatgtt ttctttctta atttttatct gtcttttgat tctttttca
aaatgagtct agatggtcta agcagaggag atcagaagca tcaaaatggg gctggtttgg
                                                                    360
ggcagtgggt gtttttctca gtgactgtta atctccagaa gcatggcagt tctagggcca
                                                                    420
                                                                    480
gaggctacgt ggcttatcct agagggagta ccttcaggta tacaattatg tcttagttga
                                                                    540
gggttttaaa aaaattgttg tcaccaggtg cagtggctca tgcttgtaat cccagcactt
                                                                    600
tggtaggccg aggtgggtgg atcacaaggt caggagtttg agaccgtcct ggctaacacg
                                                                    660
gggaaaccct gtctctacta aaaatacaaa aaaattaggc tctggtggcg cgcgcctata
gtcccagcta ctcaggaggc tgaggcagga gaatcgcttg aacccaggag gtggaggttg
                                                                    720
                                                                    780
cagtgagccc aaatcgcgcc actgcactcc agcctgggcg acagagcgag actctgtcaa
                                                                     793
aaaaaaaaaa aaa
<210> 12698
<211> 794
<212> DNA
<213> Homo sapiens
```

```
<400> 12698
                                                                       60
cctgtatgta gctccagcta cttggaaggc taagatggga ggatggcttg agcccaagag
                                                                      120
gcagagcccg caatgagtgg agatcgtgcc actgcattcc aggctgggca acagaatgag
                                                                      180
actctgtctc aaaaaaataa aaaaaaagaa aagataaaca gtaaaatgga atcagaggag
                                                                      240
gaggtaatgc caagagttcc actattcatt gaaaactaag ggagtatgtt gtggaaagag
                                                                      300
aatgacagca gaagctatgt tttctttctt aatttttatc tgtcttttga ttctttttc
aaaatgagtc tagatggtct aagcagagga gatcagaagc atcaaaatgg ggctggtttg
                                                                      360
gggcagtggg tgtttttctc agtgactgtt aatctccaga agcatggcag ttctagggcc
                                                                      420
agaggctacg tggcttatcc tagagggagt accttcaggt atacaattat gtcttagttg
                                                                      480
agggttttaa aaaaattgtt gtcaccaggt gcagtggctc atgcttgtaa tcccagcact
                                                                      540
ttggtaggcc gaggtgggtg gatcacaagg tcaggagttt gagaccgtcc tggctaacac
                                                                      600
ggggaaaccc tgtctctact aaaaatacaa aaaaattagg ctctggtggc gcgcgcctat
                                                                      660
agtcccagct actcaggagg ctgaggcagg agaatcgctt gaacccagga ggtggaggtt
                                                                      720
                                                                      780
gcagtgagcc caaatcgcgc ctttgcactc cagcctgggc gacagagcga gactctgtca
                                                                      794
aaaaaaaaa aaaa
<210> 12699
<211> 4710
<212> DNA
<213> Homo sapiens
<400> 12699
                                                                       60
gaaatatata tatgagaaac taaagtcatt tcccataact taaaagaggc atagaatatt
tcgagttgaa tacagtttct gcctggcttg ttttcttctg cctcttttt ttaaagctca
                                                                      120
                                                                      180
tctttgggtg aaaaattgtc gggatcttct gcagtccagc tacaacaaac agcgctttga
tcaaccttta gaggettcaa cetggetgaa gaatttcaaa actacaaatg agegetteet
                                                                      240
gaaccaggtg actagactcc cagaagttga gtgctaggta gtccttacat ggattctttg
                                                                      300
                                                                      360
tgccctgagt accaatagac tatggagaac tgatactgga gttggaataa ctgtatcatt
                                                                      420
tttaatttct ttcatacgtt ttgctcacag tggactcata acttgaaact catttatcca
                                                                      480
tgtgaaataa ataggcaaca gtaagttgtt cccattttgt gggtagcaaa gtgaaatcca
gttgattcat tgacttttca aggtacagcc tccaatccct cgcaagcaca tttccaacta
                                                                      540
catgattttc tccagacaat atctttttag ggaaccagaa atgtattgga aaaattcttc
                                                                      600
tttaccctgg tgattcttag ataccctgtc tagaccaggg gccttcaact ctggatataa
                                                                      660
agcagagtca cctaagagct tgttaaaaat gcagatgcca gagtctcatt ctggacattt
                                                                      720
tcatcagaat cccttatgta tgtttattca aggctccaag cagaaatgga ttagaaagca
                                                                      780
ttcactttgg tcaggcacag gggctcacac ctgtaatgtc agcactttgg gaggccaagg
                                                                      840
caggcagatc acctgaggtc aggagttcaa gatgagcctg gccaacatgg tgaaatccca
                                                                      900
tctctactaa aaatacaaat attagccggg tgtggtggtg cacgcctgta ggcccatcta
                                                                      960
                                                                     1020
ttcaggaggc tgaggcaggg gaatctcttg aacctgggaa tcagaggttt cagtgagccg
agatagcgcc attgtactcc agcctgggta acagagcgag atatggtctc aaaaaaaaga
                                                                     1080
taaaagaggt caggcgtgtg gctcagacat gtaattccag cattttggga ggccgaggtg
                                                                     1140
ggcagatcac ctgaggtcag gaattctaga ccagcctggc caacatggcg aaaccccatc
                                                                     1200
tctactaaaa atacaaaaat tagccaggcg tggtgacaca cgcctgaaat cccagctact
                                                                     1260
tgggaggctg aggcaagaga atcccttaaa cctgggaggt ggatgttgca gcgagctgag
                                                                     1320
atcatgccac tgcacttcag cctgggttac agagaaagaa gctgtctcaa aaaaaaaaa
                                                                     1380
aaagaaagaa aagaaagcat tcacttctac attgaggtct cttacagaac ctgaacaata
                                                                     1440
gattaaaatg aactcctgtt aaccttagcc tccaaccttt tcaagggatg gtttcaccct
                                                                     1500
taggccaagt agcctttttt ttggttttta ttttctttgc ttgcttttag ataaaagttc
                                                                     1560
aagagaagta tgtctggaat aagagagaaa gcactgagaa agggagtcct ctgggagaag
                                                                     1620
tggttgaaca ggtataagaa aaaacactga atgtgtaaca tgcgataaca agagaaggcc
                                                                     1680
tctggtagca ctacaatcca ctgtctctcc caatagggca taacacgggt gaggaacgcc
                                                                     1740
acagatgcag ttggaattgt gctgaaagag ctaaagaggc aaagttcttt gggtatgttt
                                                                     1800
cacctcctag tggccgtgga tggaatcaat gctctttggg gaagaaccac tctgaaaaga
                                                                     1860
gaagataaaa gcccggtagg aaaactgggt gtctctatct tgtttctctg atttctgatt
                                                                     1920
ccatcagtat ggaggctggg tcttagcctt gtagaccatg caatatgttt tcttgcccta
                                                                     1980
ggaatatttg aagataaaca gtaaagagct gggtgcagtg gctcacgcct gtaatcccat
                                                                     2040
tggctcacga ggctgaggtg ggaggatcgc ttgaggccag gagttcaaga ctaggatggg
                                                                     2100
cactatagca aggcccctgc ctctaaaaaa ataagaaatt agccggtagc tggcatggtg
                                                                     2160
gcacacacct gtagtcactg ctactggaag gctgaggcca gaggatcact tgagccctgg
                                                                     2220
```

2280

agttcaaggt tgtagtgtgg catgattgca acactgcaca ccaacctggg tgacagagtg

```
2340
aaatcctgtc tcttaaaaaa tatatatatg gctgggcaca gtggctcatg cctgtaatcc
cagcacttgg ggaggctgag gcgggcggat cacctgagct tggagttcga gaccagcctg
                                                                  2400
accaacatgg agaaacccat ctctactaaa aatacaaaat tagccgggca tggtggtgca
                                                                  2460
tgactgtaat cccagttact cgggaggctg aggcaggaga atcgcttgaa cccaggaggc
                                                                  2520
ggaggttgca gtgagccgag atcgccatat atatatattc atatatatgt atatatacac
                                                                  2580
acatatatat tcatatatgt atatatacac acatatattc atatatatt atatatacat
                                                                  2640
atattcatat gttttcataa tatacgaata tacctatatg ttcatatatg tatatataat
                                                                  2700
attcatatat gtatatatgt atatataata ttcatatatg tatatatgta tatatacgta
                                                                  2760
tatatgcaca catacatatt cgtatatgca tatgcacaca tacatattcg tatatatatg
                                                                  2820
tgaagataaa cagcaaggcc tggtgtgatg gctgataaat cccagcactt ttaggaggcc
                                                                  2880
                                                                  2940
aaqaqqtqat ttgcttgagt ccaggagttt ggagtttgag gtcagcctgg gcagcacagt
gaaaccctgt ccctacaaaa aatataaaaa actagctggg catggtggtt tgcacctgta
                                                                  3000
                                                                  3060
tqtaqctcca gctacttgga aggctaagat gggaggatgg cttgagccca agaggcagag
                                                                  3120
cccgcaatga gtggagatcg tgccactgca ttccaggctg ggcaacagaa tgagactctg
tctcaaaaaa ataaaaaaaa agaaaagata aacagtaaaa tggaatcaga ggaggaggta
                                                                  3180
atgccaagag ttccactatt cattgaaaac taagggagta tgttgtggaa agagaatgac
                                                                  3240
agcagaagct atgttttctt tcttaatttt tatctgtctt ttgattcttt tttcaaaatg
                                                                  3300
agtctagatg gtctaagcag aggagatcag aagcatcaaa atggggctgg tttggggcag
                                                                  3360
tgggtgtttt tctcagtgac tgttaatctc cagaagcatg gcagttctag ggccagaggc
                                                                  3420
tacgtggctt atcctagagg gagtaccttc aggtatacaa ttatgtctta gttgagggtg
                                                                  3480
                                                                  3540
ttaaaaaaat tgttgtcacc aggtgcagtg gctcatgctt gtaatcccag cactttggta
ggccgaggtg ggtggatcac aaggtcagga gtttgagacc gtcctggcta acacgatgaa
                                                                  3600
accetytete tactaaaaat acaaaaatag taggetytga tygegtytgt etgtagteee
                                                                  3660
agctactcag gaggctgagg caggagaatc gcttgaaccc aggaggtgga ggttgcagtg
                                                                  3720
agcccaaatc gcgccactgc actccagcct gggcgacaga gcgagactct gtcaaaaaaa
                                                                  3780
aaaaaaaatt gttgtcaatt gtttcgggag aacatctagg aaaggcacgt gatgatctct
                                                                  3840
tctctcttc tgtccgatat gcagattgcc cccgaggaat tagcacttgt tcacaacttg
                                                                  3900
aggaaaatga tgaaaaatga ttgggtaagt gcatatgata cctcacacat ttcagaaaga
                                                                  3960
aatgtattat cattttaaac atgttctact atttcattgc taatacttta cagtctctaa
                                                                  4020
                                                                  4080
ttttatggac agtaagttat tatgtcttat ttaattcctg tatctgtacc aagttagaaa
                                                                  4140
taaaqtctqa attaaaatct atatatatgt ggtttataat ctttccaaag taagtttatt
                                                                  4200
caaaaccatt ttatttaaat attggcctaa ttttattttg cttgcagaca tttaaagtgt
                                                                  4260
ttttgtatct ccttaccgtc tttggaaaag agtttgagac ccacaaatat gtcatggtaa
                                                                  4320
atttaaaatc aggtagcagt ttattgtcag agccaaatct ggaataacca atttagttgc
4380
tctacagatg attaatgcag ttttccatcc tttttaactt tttccagttc agccttttct
                                                                  4440
                                                                  4500
cttttctttc agcatggagg cgccattgtg tcggctttga gccagactgg gtctctcttt
aagccccgga aagcctatct gccccaggag ttgctgggaa aggtcaagtc aaaggaaaat
                                                                   4560
                                                                   4620
ttgtttctac ttagattgtt atcctgttta aagaaaaata tttttattaa tctatgtatt
ttgacataat ttcagactta gagaaaaatc atattcctgt atgcccttcc cctggattcc
                                                                   4680
                                                                   4710
taaaatatta acttgatcat cattgcttta
<210> 12700
<211> 5775
<212> DNA
<213> Homo sapiens
<400> 12700
                                                                     60
cgggtccgta gtgggctaag ggggagggtt tcaaagggag cgcacttccg ctgccctttc
                                                                    120
tttcgccagc cttacgggcc cgaaccctcg tgtgaagggt gcagtaccta agccggagcg
                                                                    180
gggtagaggc gggccggcac ccccttctga cctccagtgc cgccggcctc aagatcagac
                                                                    240
atggcccaga acttgaagga cttggcggga cggctgcccg ccgggccccg gggcatgggc
                                                                    300
acggccctga agctgttgct gggggccggc gccgtggcct acggtgtgcg cgaatctgtg
                                                                    360
ttcaccggtg agcaacctcc gcctgctcgc cggacgcttc cagtccctcc cccaaacccc
                                                                    420
480
gatcaccacc catctcccca cagtggaagg cgggcacaga gccatcttct tcaatcggat
                                                                    540
cggtggagtg cagcaggaca ctatcctggc cgagggcctt cacttcaggt aatggcgggc
                                                                    600
agagcctgct gaccctgacc tttcaccctt gacgccgacc cagcagtggc tatagtcgga
                                                                    660
cgtgcaacag gattcaacgc tgctcttttc ccaccctcct catccctgcc cctaggatag
                                                                    720
```

tgggtgctgc gagaacctcc agcagcatac aaactgttgt tttccagagg gacaagagaa

tctctccttg	tctgtggtcg	tggagaggag	caggccaaaa	aacgcgtggt	gaggggaaac	780
cgggcaaggc	tagtgaaact	gcggcctttt	ctttttttt	ttttggagag	ggagtcttgc	840
tctgtcgccc	aggctggagt	gcagtggcgc	gatctcggct	cactgcaacc	tccgcctcct	900
gatttcaagc	gattctcctg	cctcagcctc	acgagtagct	gggattacag	gcgcccgcca	960
ccacgcccgg	ctaatttttg	tattttagta	gagacggggt	ttcactatgt	agatcaagct	1020
ggtctcgaac	tcctgacctc	aaatgatccg	cccgcctcgg	cctcccaaag	tgctgggatt	1080
acaggcgtga	gccaccgcgc	ccggccgaaa	ctgtggcctc	ttaataccta	tccctgtcct	1140
	ccttggttcc					1200
aatctcctcc	cctacaggct	ccaaaggtag	gtctgagcac	ttggtaatca	catggcaggt	1260
gggatgatca	aggtagctgg	caagaaaccc	caggggaata	tggtagtgtc	aggcctttag	1320
gcctctttcc	acatctgcaa	gagctgtaac	aaaaatacct	gcctcctggg	gtcaaagcag	1380
caaattctga	acacactgtg	tttgcgtgct	ttttactgtc	tcctccctga	cgtgtattca	1440
ataagagtat	tgtttgtccc	tcgtcttgtt	cactgcctag	atcaaagctt	tgttttaaag	1500
ccttttttt	ctaactgctt	gacttactat	atctacagtt	acatccacta	gtacactctg	1560
ttctggagaa	gtttgtccct	aagcttgact	agttcacctg	ttctctcctt	ctagaccata	1620
cataaaagcc	gtgcctttga	gttccccaga	cctcttcctc	ctccccaccc	acgcacacat	1680
atacaccctg	ggtcaggtag	ctcacctgta	acctgtaatg	tacttctttg	tgctatacct	1740
agtgcaggtc	gcttattcat	ttactagact	gggccctggg	aataaaagat	tcattaaaca	1800
caattcttgt	ccccaagtc	cttacaggag	acatgattac	ggtacagcac	gaaagcgccc	1860
acgttagagg	ttgcacagag	tacagagggg	gaaagagtag	tcagctctgc	tggtgacggg	1920
gtttgcagtt	caaggcttca	cagtgggtga	gggtgcattt	cagctgtgct	gcgtcttgtc	1980
ttccttgtca	gcctgattaa	ctctcctccc	cccagggtag	tgccaggctg	tacaccattg	2040
cacagggcat	acagggagga	acatgaagga	gaaaatgctt	gggaaagggt	gtttggcctt	2100
gaccagccac	tgctgacctc	aatctcagac	ctacagatgg	tgaatatctc	cctgcgagtg	2160
ttgtctcgac	ccaatgctca	ggagcttcct	agcatgtacc	agcgcctagg	gctggactac	2220
gaggaacgag	tgttgccgtc	cattgtcaac	gaggtgctca	agagtgtggt	ggccaagttc	2280
aatgcctcac	agctgatcac	ccagcgggcc	caggtctgac	tcccaccacc	atctgcgtgg	2340 2400
tgtcagcctt	tccttcctag	gcccagagta	ttgggaatta	ggaaaggcag	cttattagaa	2400
aagcattgtc	accctagtgc	catttccacc	taaaagctgt	getaattgee	actgtgaaat	2520
aaggagagcc	agcattagaa	ctcgatagca	ctcggtgtta	ggaagcacag	aggaaaatgg	2520
ccaagtcttg	gcttttcctg	cacctetteg	agcagagagg	cctatgctat	taggett	2640
gacaggaagc	taaggcagtg	carguiguat	cgagagcgaa	gggtcagggg	ccctaccctc	2700
cctttcagct	ccccagtccc	ctcaaaccac	cecteeette	gaaggagttg	aggetgateg	2760
aggtatccct	gttgatccgc	cgggagerga	ttagagagaga	gtagagaggt	agtatagaaa	2820
tggatgatgt	ggccatcaca	gagetgaget	gaataaaa	cttctcacaget	acadaadaa	2880
ccaaacaagt	gggtgagtcg	caagageege	ggggcgaggg	ctccctgagac	ctctccacc	2940
gaaagactcc	atgggtgggg aggaggccca	acadacces	ttcttaataa	aaaaaacaaa	acadaaacad	3000
acagectage	ttgtgcaggc	caaggataaa	accasaacta	ccaagatgat	atcettetee	3060
tggcagaaaa	tcagcccagc	ccctacaca	cctgagttcc	ccattctcct	tcatgggcag	3120
actastasas	ctaaggcgaa	tacaactcca	tactctctaa	cccttaactc	cttattagag	3180
gergargaga	cagatgagat	ctgaaatctt	agtggtagta	cctgagccat	gactccccac	3240
tataagacca	gatcaatagc	attagtagcc	ttgccttcat	ttctaatact	gcccctagtt	3300
cctagcagca	gcctgcaggg	aggcccacag	gtggggtcca	cqqtagggct	gggcacaagc	3360
cacctgagcg	caaccttgga	tctgacagcc	cagaggagga	ctggagcaag	ggagtgtggt	3420
aaggacaggg	ccagggattg	agacctgccc	ttgcgtgtac	cttaaccctc	ctcaccttgg	3480
agaagcactg	agcaagaacc	ctggctacat	caaacttcgc	aagattcgag	cagcccagaa	3540
tatctccaag	acggtgagtg	tgtcagccca	gcgtctctga	tggggctgcc	ttgagaaagt	3600
gctttcagtt	aaggcacatt	gaggtgaggg	aattcgaacc	ttgcttgttc	cggtttctac	3660
tcagattggc	ttctctggcc	ggcgcggtgg	ctcacgcatg	taatccccgc	actttgggag	3720
gccaaggtgg	gtggatcacc	tgaggtcagg	agttcgagac	cagcctggcc	aacatggtga	3780
aaccccatct	ctactaaaaa	tacaaaagat	aatgagcccg	ctgtggtggc	gtttagctat	3840
attcccagct	acgcaggagg	ctgaggcagg	agaatcactt	gaacccagga	ggcggaagtt	3900
gcagtgagct	gagatcatgc	cactgcactc	cagcctgagc	aacagagcaa	gactccgtct	3960
caaaaataaa	taaataaaaa	attggcttct	ccgatactcc	tcctgtcaag	aatgattcct	4020
ctgggttccc	tgaccttttg	ttctaatcat	agctgctgct	cagcgctctg	gatccctaag	4080
tgcgagcaga	aaccatgtgt	tactcattgc	tgcacccctg	ccctaatctg	catgtgttcc	4140
atgttaagta	gctgctgaat	tgcaggggtc	ggaattgagg	tctttgctta	atgcaagcat	4200
ctgtcttatt	tcctgccctg	tagatcgcca	catcacagaa	tcgtatctat	ctcacagctg	4260
acaaccttgt	gctgaaccta	caggatgaaa	gtttcaccag	gtgagagatg	tggccacact	4320 4380
gtggggtatc	accaagaacg	tgggacctga	gtctggttgt	trgggetetg	gagcctgcta	4380

```
cagctattca tatggctcag agacattgaa ccaaaattag aaaagggggt ggttgacagt
ttctatcttg catctcatag gattgatttt atgagatcaa ataggattat tcacataaaa
                                                                     4500
agcactttaa ttataaagtt ttcatctaac caaaaagtga tgaaagatga tactcagttt
                                                                     4560
                                                                     4620
tcttactcaa gagccctcaa actcctctgg tgaatggagg gatgttagga aaggagatga
gaaatagcag tggccatgag aacatgcctc ctcctttcat gagcctgaga ttcctggctg
                                                                     4680
                                                                     4740
tcaaccctgt ttatcttttc tcttgggagc aaaggagggt tcaaagctga gtggggcctg
                                                                     4800
aagctgtcaa ttaacatgtg catttctctt ctctgtttct tgttcatctg gcgatctggc
accacagggg aaggtaagct gttgttgctt ctgtggggtc ctgcaggcca ccttctccag
                                                                     4860
tacccgcctc ctaccctacc ccctttccca cctccccgaa gacaaaccct caatcagggt
                                                                     4920
aggagggtcg tagagggaat ggcctagagt gtcctgcctc tcacatttat gtcccctaat
                                                                     4980
aatgtcatta tctatctttt ttttcctaca gtgacagcct catcaagggt aagaaatgag
                                                                     5040
cctagtcacc aagaactcca cccccagagg aagtggatct gcttctccag tttttgagga
                                                                     5100
gccagccagg ggtccagcac agccctaccc cgccccagta tcatgcgatg gtcccccaca
                                                                     5160
                                                                     5220
ccggttccct gaacccctct tggattaagg aagactgaag actagcccct tttctgggga
                                                                     5280
attactttcc tcctccctgt gttaactggg gctgttgggg acagtgcgtg atttctcagt
                                                                     5340
gatttcctac agtgttgttc cctccctcaa ggctgggagg agataaacac caacccagga
                                                                     5400
attctcaata aatttttatt acttaacctg aagtcaaggc ttcacgtgtt catgaactgg
                                                                     5460
gtaactggca gcaagcatgc gcacgttcac atgtgcgctc ctgggtctgt ctttgtgtgt
                                                                     5520
gccagcaggg ggcgcaaaag aatctggctg gggcggctaa ggggaagcaa ggcctgggct
                                                                     5580
ccgaaacagg acccaagctg ggaaggctgg ccctgagttc tcgaggccca gctgtgctct
                                                                     5640
tcacacaccc tccatttctc ccacatcacc cattttttta aggctggaca gccatggctt
tgctgagcca gattaaaaat ctgatgaccc caacaggagc tgcttccttg gcagcagggt
                                                                     5700
tccttgtggc tgtggggagc ctgcctgtgc ctgttgaggc acttctgtgc ccagaagccc
                                                                     5760
                                                                     5775
agtggatcgc gtggc
<210> 12701
<211> 738
<212> DNA
<213> Homo sapiens
<400> 12701
                                                                       60
ctggagcccg gggtcctccg ctcaactcag gacgttgagg ctgcattgag ccaagatcat
acctctacac tccagcatgg gcaaaagagc aagattctgt ctcaaaaata aataaataaa
                                                                      120
ttttgttttt aattagccag gcatgatggc atgcacctgt agtcccagct attcaggaga
                                                                      180
ccaaggtggg aggatcattt gagcccagga atttgagact gcagtgaact atgatgatgc
                                                                      240
cactgcattc caacctagat gacagaagga gacctcatct ctaaaaaataa atatatat
                                                                      300
tttttccaac cactttttat ctatacccca atgtcttaca ttccataaaa catcatgttt
                                                                      360
tgaattccag tataacttta tcgttaaaca tgtttctttg cagaagcatg tataagttag
                                                                      420
ggtccacaag attatttgca taagctaatt tacaaaaaaa attatataat cactgacatg
                                                                      480
aaagcatgtc tgggcagcca tgggagctca tatgaggcgt ccagttcagt cgccttttaa
                                                                      540
aaatgatatt tgcattagct gggcatggta gcatgtgtct gtagtcccag ctactcaggg
                                                                      600
gactgaagtg agaggatgca ccagagcccc agaagtcaag gctgcagtga gccatgatca
                                                                      660
catcactgca ccagcctggg caacaggagt gaggccttgt ctcagtcagt caatcaatca
                                                                      720
                                                                      738
atcaataatg gtatttgg
<210> 12702
<211> 852
<212> DNA
<213> Homo sapiens
<400> 12702
                                                                       60
aaggcacgtg atgatetett etetettet gteegatatg cagattgeee eegaggaatt
                                                                      120
agcacttgtt cacaacttga ggaaaatgat gaaaaatgat tgggtaagtg catatgatac
                                                                      180
ctcacacatt tcagaaagaa atgtattatc attttaaaca tgttctacta tttcattgct
aatactttac agtctctaat tttatggaca gtaagttatt atgtcttatt taattcctgt
                                                                      240
                                                                      300
atctgtacca agttagaaat aaagtctgaa ttaaaatcta tatatatgtg gtttataatc
                                                                      360
tttccaaagt aagtttattc aaaaccattt tatttaaata ttggcctaat tttattttgc
                                                                      420
ttgcagacat ttaaagtgtt tttgtatctc cttaccgtct ttggaaaaga gtttgagacc
                                                                      480
cacaaatatg tcatggtaaa tttaaaaatca ggtagcagtt tattgtcaga gccaaatctg
```

```
gaataaccaa tttagttgcc atttaactgt gctagaccac acttttgtaa cactgtatgc
                                                                      540
ccaagaaaga aaaaaaaat ctacagatga ttaatgcagt tttccatcct ttttaacttt
                                                                      600
                                                                      660
ttccagttca gccttttctc ttttctttca gcatggaggc gccattgtgt cggctttgag
                                                                      720
ccagactggg tctctcttta agccccggaa agcctatctg ccccaggagt tgctgggaaa
                                                                      780
ggtcaagtca aaggaaaatt tgtttctact tagattgtta tcctgtttaa agaaaaatat
                                                                      840
ttttattaat ctatgtattt tgacataatt tcagacttag agaaaaatca tattcctgta
                                                                      852
tgcccttccc ct
<210> 12703
<211> 634
<212> DNA
<213> Homo sapiens
<400> 12703
tacattttta gtagagacag gatttcacca tattggccag gctggtcttg aactcctgac
                                                                       60
ctcgtgatcc acccgccttg gcctcccaaa gtgctgggat tacagacgtg agccatcaca
                                                                      120
cccggccaat gaaggaattt ttaatggcca aatctaagat gatttgagca ccaaaataaa
                                                                      180
                                                                      240
aagtgacagt aatgatttag attctattaa ataaaaatcc acaagaccat accagctgcg
                                                                      300
gaggetecat gecaggtata actaaagtaa tggatactaa aaccagtagg tggaagtttg
                                                                      360
agaagtaaca ggatctttac ctagtctcaa agtatatctc tacaacatac atattaattc
caaagcaaaa taataacttt actgaagaga aaccagatgg acaacacctc agctaacagt
                                                                      420
                                                                      480
tccaaaatca ttaccagtaa tgggagaaat gtgcctcctg ataggatgca ctcactcaga
                                                                      540
catgtcatca cttctaacat cacttctatt caggaggaaa cctcagacaa ccccaaaaag
                                                                       600
tgacctacaa aatagctggc atgcacatgc caaaaacata aagatttcaa atgacaaaga
                                                                       634
ctgacagact gtcacagatt aaaggagacc aaag
<210> 12704
<211> 852
<212> DNA
<213> Homo sapiens
<400> 12704
aaggcacgtg atgatctctt ctctctttct gtccgatatg cagattgccc ccgaggaatt
                                                                       60
agcacttgtt cacaacttga ggaaaatgat gaaaaatgat tgggtaagtg catatgatac
                                                                       120
ctcacacatt tcagaaagaa atgtattatc attttaaaca tgttctacta tttcattgct
                                                                       180
aatactttac agtctctaat tttatggaca gtaagttatt atgtcttatt taattcctgt
                                                                       240
                                                                       300
atctgtacca agttagaaat aaagtctgaa ttaaaatcta tatatatgtg gtttataatc
tttccaaagt aagtttattc aaaaccattt tatttaaata ttggcctaat tttattttgc
                                                                       360
ttgcagacat ttaaagtgtt tttgtatctc cttaccgtct ttggaaaaga gtttgagacc
                                                                       420
cacaaatatg tcatggtaaa tttaaaaatca ggtagcagtt tattgtcaga gccaaatctg
                                                                       480
gaataaccaa tttagttgcc atttaactgt gctagaccac acttttgtaa cactgtatgc
                                                                       540
ccaagaaaga aaaaaaaaat ctacagatga ttaatgcagt tttccatcct ttttaacttt
                                                                       600
ttccagttca gccttttctc ttttctttca gcatggaggc gccattgtgt cggctttgag
                                                                       660
ccagactggg tctctcttta agccccggaa agcctatctg ccccaggagt tgctgggaaa
                                                                       720
ggtcaagtca aaggaaaatt tgtttctact tagattgtta tcctgtttaa agaaaaatat
                                                                       780
ttttattaat ctatgtattt tgacataatt tcagacttag agaaaaatca tattcctgta
                                                                       840
                                                                       852
tgcccttccc ct
<210> 12705
<211> 127
<212> DNA
<213> Homo sapiens
<400> 12705
                                                                        60
gggtgcggtg gctcatgcct gtaatcccag cactttggga ggccgaggca ggcggatcat
gaggtcagga gatcgagacc atcctggcta acatggtgaa accccgtctc tactaaaaat
                                                                       120
                                                                       127
```

```
<210> 12706
<211> 1189
<212> DNA
<213> Homo sapiens
<400> 12706
ttttttttt ttgagacgga gtcttgctct ggcaagactg gagtgcagtg gcgcgatctc
                                                                    60
ggctcactgc aagctccacc tcccgggttc acaccattct cctgcctcag cctcccgagt
                                                                    120
agctgggact acaggcgccc gccaccacgc ccagccagtt ttttgtattt ttagtagagc
                                                                   180
                                                                    240 .
tggggtttca ccatgttagc caggatgggc tcgatttcct gacctcgtta tccacctgcc
ttggcctccc aaagtgctgg gattacaggc atgagccatt gcacccggcc tcagctttac
                                                                    300
                                                                   360
tttcctaaca qqqatctgat agctaaagga aaagcctttg ccagtcacga tggctcaaac
                                                                    420
ctataatccc agcactttgg gaggctgagg ctggaatatt gcttagagcc caggaggagg
                                                                    480
ctgcagtgag ctgtgatcgc accactacac tctagcgtgg gcaacaaagc aagaccctgt
                                                                    540
ctcaaaaaaa aaaaaaaaa agaagaagaa gaaaagcctt tactccagat gtagagcaga
                                                                    600
ctgagctcat ccatcatgat ttcttcgtga tattactgcc aagcagatta taaggtgaag
                                                                    660
tcaatgtgac aaaaggaaat tcggctaaaa gcttcctgaa gccttttgat gctaagcagt
                                                                    720
ccttcttttg atatttaata cccatggaca taaacttctg ccttagaggt cgccatggag
                                                                    780
ttttgttttg ttttgttttt tttgttttt gccatctgtt aacagtcctg agtacccata
                                                                    840
gagcctttta ctatttatca gcattctaga gtcgtcagta tggattgtca aaacttgcat
                                                                    900
ttgtctcttt tttgttcagt gttgtgtgca tccacatttt ctttctttt taaacaaccc
tgcttatgta acatccacat tttctgactt acctttcaaa cctgccagaa agcagaagtg
                                                                    960
atatttaata cacttggtat gttttatata ttgattctaa tgataatgtt tagtctaaga
                                                                   1020
tggacctgac aaggccaggc atagtggttc aacagcactt tgagaggctg aggcaggatg
                                                                   1080
                                                                   1140
attgcctgag cctaggagtt caaggttaca gtgaactgtg atcacatcct gccttctagc
1189
<210> 12707
<211> 3222
<212> DNA
<213> Homo sapiens
<400> 12707
gaatagtttc agtgacatta tgtcattgaa gaccttagaa gatttccctc gctaaaggag
                                                                     60
ataaagcgac tggcacaaca tgtatttctc tgagtaatta gaagtgttct tttctggctg
                                                                    120
tactgaaggg actttcatga tttcttcgtt tttgtactct tagttttata atattgcata
                                                                    180
gtagctaagg cctggctgta gcagttataa actgttctgc aagtgcggga agtaatagtt
                                                                    240
attcctatct caaggatgtg gggtttaaat gggttagtgc acaaaaggac atttattaaa
                                                                    300
                                                                    360
tttagtcata atcatctcaa ggacatggta agtgaaagag tgtacataaa gtacttaatg
taatgtttgc tacttaatgt tcaataactc aaagagacca ccaccactac tacattttac
                                                                    420
ttttattagt aattaataat aattaataat tagtaattca gtggtaatta gtatactacc
                                                                    480
aaagaaagta cttgagcaga agagccaaaa ttcaaaccat agaatcattt tactgtgctt
                                                                    540
ttattctacc tcaaacacta atctccaggc cttggataaa gggattattt ctctgaaggg
                                                                    600
gaaagttatc ctctttttgc ccaagtcaca cttgtgtcat ttcttatact gtaaacatgt
                                                                    660
ggttccaatt ctgaggtatt ttcccggttt gtaggaccca aaaagaagtt aggcttgaga
                                                                    720
aattttaagt gaagagaaca attctagttc agagtgattg gctcttccta aaagctgaca
                                                                    780
tttgactgaa aattttgagg ggagggaaag aaacaatacc ttttacggca tgtaatagga
                                                                    840
900
aaatgtcagt ttcttcagat ttgtgatgaa gctgataatc catgctcagc ttcctttatg
                                                                    960
ggtctcttgc ctatcaaata aggtacagta tgtgaagata cattgcagat tatcttatgc
                                                                   1020
attgcttcag gggatgatta aaccatcctt tattatagcc agagtctagt ctaagggaag
                                                                   1080
aaggtcattc tctataccag tgaaggctcc atccaaacca gtgtttgggg gcatagtcat
                                                                   1140
                                                                   1200
aattgaaaaa tgattgtttt ccttatctgt aagacaggta aatggtatta atcctcaggt
                                                                   1260
ggttgtgagg attaagtgat acatgtaaaa aaaagaaagc tttggatagt acctattata
agaaactcag tgttgctgca atgtatgtat tataatggat ttgaaatttg ccctaaccaa
                                                                   1320
                                                                   1380
gagtcacaga cagaaaaaag gaagttaatg tatctcttga tcactatcaa gatgtggtat
                                                                   1440
tgaaccttca agatcctttc agggaatatg tgagatcaaa atttttatac tggcactatg
atgtatttgc cttttcctca tattcacaag tgaacagtgg agttttacag aagctatata
                                                                   1500
atgtcatgac atcactgatg ggtaatagaa tgtgtgcttg tatattccga aactttcagt
                                                                   1560
```

```
1620
tccaatttct tcgatcaatg taatcctcat aagtaaaagt tatttgagga cctcagacat
ttttaaaaat gtaaaggggg tggggtcagg ctcagtggct catgcctgta atcccagcat
                                                                     1680
tttggaaggc cgaggcgaac ggatcacttg aggccaggag tttgaaacta gtctggtcaa
                                                                     1740
catggtgaaa ccccgtctcc actaaaacaa aaagttttct ggatgtggtg gcacacatac
                                                                     1800
ctgtaatccc agctactttg gtggctgagg catgagaatc acttgaaccc agaagacagg
                                                                     1860
ttgcagtgag ccaagattgt gcccctgcat tctagcctgg gtgacagtga gactgtctca
                                                                     1920
aaaaataaag gtgtacaggg attgtatatt tgacaacttg gtatgtagga tgtgctacct
                                                                     1980
ctaatgttcc atgctgttac ttagttttca ctcactacta tattttggag atttgttcat
                                                                     2040
attgctctgt gtacatttaa ttcttcagtg tgtatccacc acatttaact tattcactta
                                                                     2100
caqaactatg caagaatttc tctggtaaat ttcactaagt acttatgtac ttttcagaac
                                                                     2160
gattgtgagt ttacacccct accagcagga ctgagttgag tacccatttc ctcacatcct
                                                                     2220
tgccagtact tcatttgcct aatttttgcc attctcataa tgtggcaatt gttcaatttt
                                                                     2280
gcatttcttc cattttattt ttttgcatct ctgcttttct tttggttagc tttgccagtt
                                                                     2340
                                                                     2400
ctgcctatta tattaatctc ccagaatcag cttttagttt tgttaaatct ctgacatgtt
                                                                     2460
togttgatto otgotttoat ottaaacatt tottogttgt taatttgtgt ttgotataaa
                                                                     2520
ataagcaaca tettaaatge ttgatttget ttegatgttt attetgtaat aagatattta
                                                                     2580
aagatataat tttttcccta aatgctttat tagacttttc tcataagttt tgactggtac
tgttttcatt gttatttaat tttgtgtttt ttaacttctt tcatgatttc cttttaactg
                                                                     2640
                                                                     2700
aaggttttct tagatattta gtttgctggt atattctttt aaaattgtat cattgctttc
tttctatatt ggattattgt cagagaacat gatttgcatg atattaactt tttggagtat
                                                                     2760
                                                                     2820
attgttgcat ctttgtggcc tagtacatag ttaatttagt gaatgcttcc agttgtactt
                                                                     2880
gaaaagaatg tatatttct gattattgag ggtaaatttc tctatatatg ttttcctgtt
taataaatat gtagctatgt gcttatgttt tgactgctcg gttaattatt tttgagaaat
                                                                     2940
atatgtgtta aagactccat atttctgtac acaactgata cctggtattt gctcatttta
                                                                     3000
aggtcttttt agtaatgggc gaagtataga gaaagtagag ctggttcatc catcacttgg
                                                                     3060
                                                                     3120
gtcaaaccct ccatccttaa acagttgctc atgtgcaggt ggacgcatca ttgaagcttt
tctttctttg ggcaccagag tcagggatag attcaggccc caaaagaccc cacggtactt
                                                                     3180
                                                                     3222
cctgggccct tgggctctgt cctgaacttc tgtgtcctga aa
<210> 12708
<211> 7217
<212> DNA
<213> Homo sapiens
<400> 12708
ggggtgagga ggagggacag tgtattagag attttactgt tcaaaatgta gacttcctca
                                                                        60
 gttttcagta aaatactcta ccctgtctat atgtggattc ccctattcca gactgattca
                                                                       120
 cccttttcag tgagttagtc gtgacatttc ttacactgtg agggggagtg gtaattactt
                                                                       180
 tacagggagg tatggggcca tggtgtttga ctcttctttc aaccacttct gggtttttta
                                                                       240
 gtgaaaacct ctatctaaca ctgatacttt catttctgtt gtctattgag tcagttaaca
                                                                       300
 ctgatccatt tatttttcag ttcccaaaat cttgctttgc cattgcttct attttattgt
                                                                       360
 ctgggggtgt ttaacacctg tttcattttt tacagtcatt tagtttccag attttagtaa
                                                                       420
                                                                       480
 gggacagagg ggaatagatg gactcatttc atgatgtaga aacaaatact ccctgtcttg
 tcttacatga aaaattattc ttaaactagg ccttatcttt gagaacctga tcaaagtata
                                                                       540
 aaaaatactt tttggcttta tttctttagt gagtcactat tccatatttt gaaggtgtta
                                                                       600
 agaggtatgg taaaggtggt acttgaacat ttccaagcaa acgtgtgatg aaatctttca
                                                                       660
 tcaatgtctt agcaatggta tatgattttt ttagtcttag caattttaga taagttttt
                                                                       720
 ttttgtcttg tttttttgag acggagtctt gctctgtcgc ctaggctaca gtgtagtggc
                                                                       780
                                                                       840
 gtgatctcgg ctcactgcag cctctgcctc cgagcggggt ccagcgattc tcctgcatca
                                                                       900
 gcctcctggg tagttgggat tacaggtgca tgccaccaca cccaactgat ttttgtattt
 ttagtagaga cagggtttca ccatcttggc ctgactggtc ccgaactgat ctcaggtgat
                                                                       960
                                                                      1020
 ctgcccacct cggcctccca aagtgctggg attacaagcg tgagccactg cgtggcctga
                                                                      1080
 ggtaagattt tataagaagc ctacaaagcc ctaattttta cattaagaac attaagtgct
                                                                      1140
 tctgatagtt ttaagttccg tagtctttat ttcaaagaat tatttcattc tgaatttcta
                                                                      1200
 tttaaattag tctagaatat gtttataaat ttatttacat ttggttgaaa tgtattctta
                                                                      1260
 aaacttattc cacagtttcc agtttgagga taaatgaggt ctaaagacag tatgaacttg
                                                                      1320
```

1380

1440

1500

ttaataattt ttcctattgt cctttttaga aatcttacat atcctttagc ctaattatag

attggccctg caagcatgtc actgtatctt ttatgtcttc ctgagtctta gcactttaaa

ttcttctata tccttcactg tctttcttac agcaccctaa aagagtagca tgtgaactgt

tgctcttctc taaggtattt taggacattt ttaaaaataat atatgagtgg ttgtcatgct

aaatactgtc	taccacaact	catacaatta	aagtggtcaa	agaaaggtct	ctttcatttc	1560
ttttttcatt	ttaaaaagaa	atgttatttg	taaaacagta	tagtcataac	acagatatgg	1620
cagttttta	gtttttttt	ttcttttct	tcactgtgtc	atccaggcag	tagcgtgatt	1680
ataattcact	gcagcctcca	actcctgggc	ttgagggatc	ctctcactga	gccttctgag	1740
cagctgggac	tgcaaacgtg	tgccagtact	cctggctaat	ttttaaattt	ttttgtagaa	1800
ttgaggtgtt	tttttaaatt	tttttaaagc	cttgtttgca	aactgttgca	acttctggcg	1860
	ctggcctcaa					1920
gcacccagcc	cacaattttc	tttcagtaca	atataaacat	cttgcaagcg	ctagcttgat	1980
ttacactttt	tgtctgtatc	cacctctttt	tttttttt	tttttttt	tttttgagat	2040
ggagtttcgc	tcttactgcc	caggctggag	tgcagtggtg	cgatcttggc	tcattgcaac	2100
ttccacctcc	caggttcaag	cgattctcct	gcctccatct	tccgagtagg	tggcattaca	2160
ggcatgtgcc	accacgcccg	gcgagttttg	tatttttagt	agagatgagg	tttctccatg	2220
ttggtcaggc	tagtctcgaa	ctcctgacct	caggtgatcc	acccaccttg	gcctcccaaa	2280
gtgctgggat	tacaggcatg	agccactgcg	cccagtatat	atccaccact	ttaccatcca	2340
cattagcatt	tcattagctt	ctctttgccc	ttttagttaa	taaccccatc	tcagggtgat	2400
tcactttcat	aatccgtatt	accatggatt	aattctgcat	agcaaaaact	atgataggtg	2460
tattaaqtaa	tgaagtttgg	ggaatgttaa	taagatgatt	tctcttactg	tagatgaaat	2520
acatcgtaag	agaatccctc	gtgagaccag	atcagttaca	tgtatatctt	gcctctctta	2580
agtetetace	atttattact	gtacttgagt	taggatttgg	aagtgccact	gaacactaaa	2640
attattctqt	ctgggtattt	gaatggtgtg	agacaaaaat	ccattttaat	gttttatcaa	2700
gttgagatgt	ctcacatgag	tagttagtgc	tgagaatcag	acacaggcac	atttgggagc	2760
atagcatagc	aagaagcttt	actttttcct	gttcctattg	tactcaaact	tgtttctaca	2820
tttttcattq	atttctcttc	gtactagcac	tagggcgcaa	gagaagccgt	actggaatat	2880
tacactactc	agcacaagac	aggtttaatc	tttttcttgg	gggacaagat	tggaaaattg	2940
aggtctgagc	agacctgaag	agaggcatcc	agcaactctg	agattaaatt	catcattgat	3000
caattcotta	ttgtttggaa	ttgacgttta	gctgtgttcc	tcactcagat	acgtgcatga	3060
tagctgcttg	ctaatttggt	cttagctcac	atttcaccta	gaatgtatgg	tctccctctc	3120
ccctgcaaaa	tatcccactg	ttqctaatct	gtctgcctca	taatttccat	gagattgagc	3180
atcttqtttq	ttttgtcacc	actatataac	agcatgttgg	aaacaaagca	gtaataaagc	3240
tagaaaaacc	aagcgaatac	actggattaa	aaaaaatact	gtttcctaga	attaaagaaa	3300
taaatgaggc	cgggcgcagt	gatacctata	atcccagcag	tttgggaggc	tgaggctagt	3360
ggatcatgtg	gccgagatcg	catcactaca	ctccagtcta	gcaacagagc	gataccttgt	3420
ttcttactta	aaaaaaaaaa	aagacctcat	ttgttaactg	ttaaacagaa	aacaagaaat	3480
tecetatace	tgtatgcatt	atagagcaaa	taagagcatc	aaaaacaatc	ttagaaatct	3540
ttcagagaaa	ggtcacctac	aaaggaacat	tgatcagata	atagatttt	ttttttttct	3600
cagatggagt	tctgctcttg	tcgcccagac	tggagtgcaa	tggcacgatg	ttggctcact	3660
gcaatctccg	cttcccaggt	tcaagcagtt	ctccagcctt	agcctcccaa	gtagctggga	3720
ttacaggctc	ccactaccat	tcccagaatt	tttgtatttt	aattagtaga	gacggggttt	3780
caccatatta	gccaggctag	cctcgaactc	ctgaactcag	gtgatctgcc	tgcctcggcc	3840
tcacaaagtg	ctgtgattac	agggtgtgag	ccactgcacc	tggccgataa	cagatgtttt	3900
aatagtaaga	taaaaagtaa	aatttccagt	gtgtcgaagg	aagaaaatta	cagcctagaa	3960
ttttatcttc	atgtacatta	tttaagtgtg	agggaatagt	ttcagtgaca	ttatgtcatt	4020
gaagacctta	gaagatttcc	ctcgctaaag	gagataaagc	gactggcaca	acatgtattt	4080
ctctgagtaa	ttagaagtgt	tcttttctgg	ctgtactgaa	gggactttca	tgatttcttc	4140
gtttttgtac	tcttagtttt	ataatattgc	atagtagcta	aggcctggct	gtagcagtta	4200
taaactgttc	tgcaagtgcg	ggaagtaata	gttattccta	tctcaaggat	gtggggttta	4260
aatgggttag	tgcacaaaag	gacatttatt	aaatttagtc	ataatcatct	caaggacatg	4320
gtaagtgaaa	gagtgtacat	aaagtactta	atgtaatgtt	tgctacttaa	tgttcaataa	4380
ctcaaagaga	ccaccaccac	tactacattt	tacttttatt	agtaattaat	aataattaat	4440
aattagtaat	tcagtggtaa	ttagtatact	accaaagaaa	gtacttgagc	agaagagcca	4500
aaattcaaac	catagaatca	ttttactgtg	cttttattct	acctcaaaca	ctaatctcca	4560
ggccttggat	aaagggatta	tttctctgaa	ggggaaagtt	atcctcttt	tgcccaagtc	4620
acacttgtgt	catttcttat	actgtaaaca	tgtggttcca	. attctgaggt	attttcccgg	4680
tttgtaggac	ccaaaaagaa	gttaggcttg	agaaatttta	agtgaagaga	acaattctag	4740
ttcagagtga	ttggctcttc	ctaaaagctg	acatttgact	gaaaattttg	aggggaggga	4800
aagaaacaat	accttttacg	gcatgtaata	ggaagaagac	: ctggatttta	gttgctgctc	4860
tgatgtccca	acttgggtaa	ggcaacataa	cataaatgtc	agtttcttca	gatttgtgat	4920
gaagetgata	atccatgctc	agcttccttt	atgggtctct	. tgcctatcaa	ataaggtaca	4980
gtatgtgaag	atacattgca	gattatctta	tgcattgctt	. caggggatga	ttaaaccatc	5040
ctttattata	gccagagtct	agtctaaggg	aagaaggtca	ttctctatac	: cagtgaaggc	5100
tccatccaaa	ccagtgtttg	ggggcatagt	cataattgaa	aaatgattgt	tttccttatc	5160

```
tgtaagacag gtaaatggta ttaatcctca ggtggttgtg aggattaagt gatacatgta
                                                                   5280
aaaaaaagaa agctttggat agtacctatt ataagaaact cagtgttgct gcaatgtatg
tattataatg gatttgaaat ttgccctaac caagagtcac agacagaaaa aaggaagtta
                                                                   5340
atgtatctct tgatcactat caagatgtgg tattgaacct tcaagatcct tttcagggaa
                                                                   5400
                                                                   5460
tatgtgagat caaaattttt atactggcac tatgatgtta tttgcctttt cctcatattc
                                                                   5520
acaagtgaac agtggagttt tacagaagct atataatgtc atgacatcac tgatgggtaa
                                                                   5580
tagaatgtgt gcttgtatat tccgaaactt tcagttccaa tttcttcgat caatgtaatc
                                                                   5640
ctcataagta aaagttattt gaggacctca gacattttta aaaatgtaaa gggggtgggg
                                                                   5700
tcaggctcag tggctcatgc ctgtaatccc agcattttgg aaggccgagg cgaacggatc
acttgaggcc aggagtttga aactagtctg gtcaacatgg tgaaaccccg tctccactaa
                                                                   5760
                                                                   5820
aacaaaaaqt tttctggatg tggtggcaca catacctgta atcccagcta ctttggtggc
tgaggcatga gaatcacttg aacccagaag acaggttgca gtgagccaag attgtgcccc
                                                                   5880
                                                                   5940
tqcattctag cctgggtgac agtgagactg tctcaaaaaa taaaggtgta cagggattgt
atatttgaca acttggtatg taggatgtgc tacctctaat gttccatgct gttacttagt
                                                                   6000
tttcactcac tactatattt tggagatttg ttcatattgc tctgtgtaca tttaattctt
                                                                   6060
cagtgtgtat ccaccacatt taacttattc acttacagaa ctatgcaaga atttctctgg
                                                                   6120
taaatttcac taagtactta tgtacttttc agaacgattg tgagtttaca cccctaccag .
                                                                   6180
caggactgag ttgagtaccc atttcctcac atccttgcca gtacttcatt tgcctaattt
ttgccattct cataatgtgg caattgttca attttgcatt tcttccattt tattttttg
                                                                   6300
6360
atcagctttt agttttgtta aatctctgac atgtttcgtt gattcctgct ttcatcttaa
                                                                   6420
acatttcttc gttgttaatt tgtgtttgct ataaaataag caacatctta aatgcttgat
                                                                   6480
                                                                   6540
ttgctttcga tgtttattct gtaataagat atttaaagat ataattttt ccctaaatgc
                                                                   6600
tttattagac ttttctcata agttttgact ggtactgttt tcattgttat ttaattttgt
gttttttaac ttctttcatg atttcctttt aactgaaggt tttcttagat atttagtttg
                                                                   6660
                                                                   6720
ctggtatatt cttttaaaat tgtatcattg ctttctttct atattggatt attgtcagag
aacatgattt gcatgatatt aactttttgg agtatattgt tgcatctttg tggcctagta
                                                                   6780
                                                                   6840
catagttaat ttagtgaatg cttccagttg tacttgaaaa gaatgtatat tttctgatta
                                                                   6900
ttgagggtaa atttctctat atatgttttc ctgtttaata aatatgtagc tatgtgctta
                                                                   6960
tgttttgact gctcggttaa ttatttttga gaaatatatg tgttaaagac tccatatttc
tgtacacaac tgatacctgg tatttgctca ttttaaggtc tttttagtaa tgggcgaagt
                                                                   7020
atagagaaag tagagctggt tcatccatca cttgggtcaa accctccatc cttaaacagt
                                                                   7080
tgctcatgtg caggtggacg catcattgaa gcttttcttt ctttgggcac cagagtcagg
                                                                   7140
gatagattca ggccccaaaa gaccccacgg tacttcctgg gcccttgggc tctgtcctga
                                                                   7200
                                                                   7217
acttctgtgt cctgaaa
<210> 12709
<211> 85
<212> DNA
<213> Homo sapiens
<400> 12709
tttttgtttt tttgagacgg agtctcactc tgtcgcccag gctggagtgc agtggcgcga
                                                                     60
                                                                     85
tcttggttca ccgcaagctc cgcct
<210> 12710
<211> 85
<212> DNA
<213> Homo sapiens
<400> 12710
                                                                     60
tttttgtttt tttgagacgg agtctcactc tgtcgcccag gctggagtgc agtggcgcga
                                                                     85
tcttggttca ccgcaagctc cgcct
<210> 12711
<211> 32720
<212> DNA
<213> Homo sapiens
```

<400> 12711	_					
cagccagtac	cttttcaaca	accaaagcac	ttcactggag	gagtgatgcg	atggtaccaa	60
gtaaaaggca	tggaatggct	tagggtaatg	aattggaatt	tttaatacaa	gatactggtt	120
ttatttctat	agtagcctaa	tgatttgagg	taccacaact	tgagtcattt	ctatcatgtt	180
tcactattat	acatttgtat	gtggatactt	gctttctgat	ttctttaccc	tgaattttta	240
gaagtagaaa	ttaccttgtt	aatggcttcc	agcactttta	tggctttgat	aaaggacttt	300
ccagtgttgt	tataatttat	ggtgtgaata	tatcagcttt	aacataattc	tcatctttgg	360
gtgtgatttt	ttaaagagaa	gaaataaaat	attgtaatcc	tgtagttgtt	tatatccaag	420
tttaaataca	gtatctatta	ttttgtccag	atgctttggg	aaaatggaat	taatggcatt	480
ttagcagatg	aaatgggatt	gggtaagaca	gttcagtgca	ttgctactat	tgcattgatg	540
attcagagag	gagtaccagg	accttttctt	gtctgtggcc	ctttgtctac	acttcctaac	600
tggatggctg	aattcaaaag	atttacacca	gatgtaagac	atgcttcctt	atgttaaaat	660
	catgttttct					720
taattatatt	ggtttctgta	taaatatttt	gtctgatttg	acttactcaa	tctgcacaat	780
accctaattt	aaatttatat	agtataggtt	ttggaaatcc	ctgacatctt	tcctaaaata	840
ttcctgaatg	attttcagtg	cattggtaat	ttgattcgac	tgagacagac	ttaggtagag	900
attttattaa	aaattctgct	tgttcttcac	ttgatctttg	ccaaaaggct	aagaagagag	960
ttttctgttt	tttctgtact	tgttaccttc	tgcaattttt	tttttttt	tttttttga	1020
aatggagtct	ctgttaccca	ggctggaggg	cagtgatgca	gtcttggttc	actgcaatct	1080
ctgcctccca	tgatgaagca	attcttgtgc	ctgagccacc	ggagtagctg	ggattacaag	1140
catgtgccac	catgcccagc	taattttatg	tttttagtag	agacgatgtc	ttgccatgtt	1200
aaccaaacta	gtcttgaact	cctggcctga	agagatctgc	ccactttggc	ctctcaaagt	1260
actoggatta	tagacgtgag	ccactgtacc	tcccgggccc	agcccttctg	cacatttttg	1320
ccttatgaga	aatatatata	ttctagacgt	agtatcacca	tctgtctcat	tttatatatt	1380
tatatatata	ttatttattt	atttattttg	aaatggagtc	tgtctctgtc	accatgctgg	1440
agtgtagtag	ctgggactac	aggcgcacac	cacaaggcca	ggctaatttt	ttgtattttg	1500
atagagagag	gatttcacca	tattaaccaa	gatggcctct	atctcctgac	cttgtgatcc	1560
gcagagacag	gcctcccaca	ataataaaat	tacaggtgtg	agccactgcg	cccagcctat	1620
atatattta	tgtatttgta	gatttttat	taaaaaaaaa	attatattta	tatatatata	1680
tatatatata	tgtgtgtgtg	tatatatata	tatgacagag	tttcactqtt	gttgcccagg	1740
ctagagtaga	atggcacgat	ctcaactcaa	tocaacctcc	acctcccaaa	ttcaagcgat	1800
tetectatet	cagcctccca	aataactaaa	attacgggcg	tgcgccacca	cgcctggcta	1860
attttatatt	tttagtagtg	acagaatttc	tccatattaa	tcaggctggt	ctggaactcc	1920
caacataaaa	tggtctgccc	acctcaactt	cccaaagtgc	tagagattac	aggtatgagc	1980
cyaccicagy	ggcccgtcta	tttatttta	taccttttt	tttgtcttca	gacaggatgt	2040
tactctatta	ctcaggctgg	agtgcagtgg	catcattcta	actcactata	gccttcacct	2100
aggaggtes	tgtgagcctg	ctatctcaca	cacctaaata	gctcatgtga	acctcccatc	2160
tanataanat	gggtgagtag	ctacceaca	agatacatac	caccacacca	gctaatttt	2220
mtattttt	tagagatggg	atttctccat	attactcaa	ttgatctcga	actactogac	2280
tttagagata	ggcttgcctt	ggetteccaa	agtattaaga	ttataggtgt	gagccattgt	2340
titagagate	actttgtttt	tttatttatt	ttttttcat	tttctcccat	aatagttcaa	2400
testtests	gaattgcttg	acttatttta	ctatagaaaa	atagaaataa	aatttttaa	2460
igalligila	tttccctcag	aatratttat	attttctaaa	tagtcaatat	ttacattttq	2520
aditatatit	tratagasat	castatasas	tttttcacat	ccctacaatq	ttatatcatg	2580
accagagaga	rgaladadat	aaattaataa	gaaatattta	caaacggaaa	gggactttgc	2640
gaacccayga	tataataata	acatcattta	aaataccat	dadadaccda	aatgcgttac	2700
agatteatee	retattantt	acyttattta	taatageeae	aacatoottt	tcttcattta	2760
aggtacaaat	gatetteatt	ggerecting	taacacacaa	tttattatc	gaaataatag	2820
tateaettte	teaceatety	gyagcarreg	gaagettta	ttaacacaat	gattgggatg	2880
attatattgt	geatataeet	tataattaaa	gaaactttta	otttaaccta	tggcttagaa	2940
aaggccatca	tttgtaacaa	tataattaaa	tattaggca	atatttataa	caggtacttt	3000
tcatccagaa	atagacctaa	tereggaatg	atgastasg	acaccigiga	gacaagttat	3060
gaatatatgg	aatttactta	tegialilla	accadatady	ttatatttta	ttgatgttct	3120
ttttagagta	tettattgga	clattiggta	gtattttgt	tassaastta	acctttttc	3180
agctacttat	ctaaataatt	Locagitage	ttttaaatt	cttcctcact	accttttttc	3240
tttcatgcct	cctgttttca	tacteggtg	ttaatttata	taaccetata	getetacete	3300
attcatttat	aattcttgac	Lyctiltit	matterns:	aggecatyty	agaaccctct	3360
tagtgcagtc	cccttaggtt	tatettgett	gettggaaat	ayyaaaytat	ttaatggttt	3420
caacataaaa	tcaaaacaca	caagtcataa	atagaataat	. catgattigo	ataattatga	3480
ccagtattgt	caggttttat	grarates	gradadttt	gyaacatyat cattaaaaa	ttgcagaaat	3540
ctcagttcag	gagtttagca	aaytttatga	acycycacag	cactadaady	tatttaaacc	3340

3600 aggccgggca tgaaggctta tgccagtaat tccagcactt gggagtctga ggtgggcaga tcccttgagg ccaggagttc cagaccagcc tggccaacat gacgaaaccc tgtctccact 3660 3720 aaaaatacaa aaattaggcc ggacgcggtg gctcacgcct gtaatcccag cactttggga 3780 ggccgaggcg ggtggatcat gaggtcagga tatcgagacc atcctggcta acaaggtgaa 3840 accocgtoto tactaaaaat tacaaaaaaa ttagccgggc gcggtggcgg gcgcctgtag 3900 tcccagctac tcgggaggct gaggcaggag aatggcgtga acccgggaag cggagcttgc agtgagccga gattgcgcca ctgcagtccg cagtccggcc tgggccgaca gagcgagact 3960 ccgtctcaaa aaaaaaaaaa aaaaaaaaaa aaatacaaa aattagctgg gtgtgatggt 4020 gcacatgttt aatggcacaa ggattgctta aacccaggag gtggaggttg cagtgagctg 4080 tgattgcgcc actgcactct agcctgtgct acagtgagag tctgtctcaa aaagaaaaaa 4140 aaatttaaac cagtagtccc caaccttttg gcaccaggaa ccggttttgt ggaagacaag 4200 4260 ttttccatgg accatgggtg ggggatggtt tcagaatgat tcaaatgcat tataattatt 4320 gtgcacttta tttttattat tataaaattg tcatatataa tgaaataata gggctggccg 4380 tagtggctca cccctgtaat cccagcactt tgggaagctt aggcgggcag atcacttgag 4440 gtgaggagtt tgagaccatc ctggccaaga tggtggccaa catggtgaaa ccacatctct 4500 acaaaaatac aaaaattacc tgggcatagt ggcctagctc cttgggaggc tgaggcagga 4560 taattgcttg aacccgggag geggatgttg cagtgagccg agatcatgcc gcttggttgg 4620 ctgggcaacc aagtgagact gtgtctcaaa ataataataa ttttacaact caacataacg 4680 tagaatcagt ggtagccctg agcttgtttt ccatctaggg atgatgggag acagtgacaa 4740 atcatccacc attagatttt tataaggagc gcacaaccca gacaacccag atcccttgga 4800 tgtgcagttc acaatagtgt tcatgctcct atgagaatat aatgtctcct gatctgacgg gaggcagagc tcaggccata atgtgagcag tggggagtgg ctgtaaatac agatgaagct 4860 4920 tcccttttct gtaaatacag acgaggcttc cctcgctcac agctgcttac ctcctgctgt 4980 gtggcctggt tcctaacatg ccatggaccc ctacaggtct gtgacctggg ggttggggac 5040 ccctgattta aagcatttct ttacagtaaa agtaatatat accaattttt tttaaagggt 5100 agtgtacagg aagatgtaaa agcacctgta attctacctg agaactacta cttttttctt ttttttttt tttttgaggc agagtcttgc tctgttgccc aggctggagt tcagtggcgc 5160 5220 gatcttagct cactgcaagc tccacctccc aggttcacac cattctcctg cctcagcctg 5280 ccgagtagtt gggactacag gtgcccacaa ccatgcccgg ctaatttttt tgtatttcta 5340 gtagagatgg ggtttctctg tgttagccag gatggtctcg atctcctgcc ctcgtgatcc gcccgcctca gcctcccaga gaactactac ttttatacta aataattata gctaacatgt 5400 aggtataatt tacacatatg atcatactat acattcaatt ttttttttt tggtccgaga 5460 cagggtctca ctttgtcacc caggctggag tcctgtggca cgatctcagc tcactgtagc 5520 ctgaatctcc tgggctcaag tgattctcct acctctgtct cctgagtagc cgggactaca 5580 ggcgtccgtc atcacacctg actgattctt gtattttttt gtaggaacag ggtgtctcaa 5640 gccatccaac tgtctaggcc tcccaaagtg ctgggagtac aggtgtgagc caccacttcc 5700 agcctgcatt cacttttgca acttgtgttt tctactcagt agtataacat gaagaccctt 5760 cctgtaatga aatagttaag cttccttgtc catttccttt gccagtggct agaaactttt 5820 gactttttcc atttaagtga gcttatatta tcatttcaag gatcttagct tactctggta 5880 acggagtgtg aggttccagg gcttttgttg ctgagtgcga gtggaagtga ctgagttcac 5940 6000 ttgctaattt ggctttcaga ttcctcatca tttatttcct tgttttcttt tctctcacat 6060 6120 6180 acceaggetg gagtgeagtg geacgatete ggettaetge aacetgtete eegggeteaa gcaattctcc tgcctcgcct cctgagtagc tgggattaca ggcatgtgcc actacgtcca 6240 gctaattttt gtatttttag tagagacggg gtttcaccaa gttggccagg ctggtctcaa 6300 actcctgacc tcaggtaatg cgtctgcctc ggcctcccaa agtgctggga ttacaggcct 6360 gagccactgc gcccggccaa ggatatttta tatttttatc tggattttta gatagctgtc 6420 6480 ttacagtgag agataattca ggttttttgg tttaacatat tgccaggaaa ataaatcctt tcttggttat tttaataaag aagatacagt actataaact tttttcattc ttttgggatg 6540 6600 tataaagcaa aatgcaaaac gttctctata ctctttcctc aatttgtcag tcccattttt taaggatagt tatatttttc agattgttat ttatatttcc agaaatactt catatttctg 6660 tatgttaata taaattagat taattataaa ttttcctgat taagatatat gagaaatcac 6720 agatattaaa atgagaaagt taaaacaatt teettgataa etttatgaaa gtgagtgggt 6780 gactttctgt gaaaatataa attgcttaaa taagggaaaa ttctagtgct atttgatgtt 6840 tcagcacata tggaactaat aaaagctcaa tttttagtag tctagtgtaa cattaatatc 6900 aaaacttggg aaaatattag aaaagaaagc tacaactgcg ttgactaagg tgtgaatagg 6960 7020 gaaatcttaa attcaaaata ggtggagttc aaactttatt gcatatttta gtaggtctct tccaggaaca gaaatatcta tcagttttag gaatccttgt aagtggatca aatgaaaaca 7080 7140 tgatcatttc agtagttact gaaattacat ttgataaaat tcaacatcca tccctcataa tagaggtttt atttttagaa ttcttgttag aaaaattgtg agatcattgt ttaaaaatct 7200

7260 ttttcctcaa ttcgttttct agcattgcta ttggaaatac ttaatagtag atgaaggaca 7320 caqqattaag aatatgaagt gccgtctaat cagggagtta aaacgattca atgctgataa 7380 caaacttctt ttgactggta ctcccttgca aaacaattta tcagaacttt ggtcattgct 7440 aaactttttg ttgccagatg tatttgatga cttgaaaagg tgggtaagcc agttatttaa 7500 tgatttaacc tcaaaaatct gtgctgttag ttaaaattac tttctttca gtgactgaat taaaatgcca aatatttggc aagttctttg tggtgtatat tgtatgttct actcctgcca 7560 caaattatgt gagagcagat taagaaaaga ttatttaaaa cttacttgca ttgattaaag 7620 gaagactgct gaatgcaact ttaagataat atttttataa taaggttctt ttatgtgtta 7680 cctttgtaaa acattttaag atggattttt cttactatat cctcattaaa caaccaggga 7740 caatagagtt gttaaattat ttcctatctc acataaaaga aaacctaggt gtaaagttgt 7800 tacaagataa gactagttag ttagcaccag agccaaagtt aaaaccaagg tctcccaatg 7860 7920 taaacacagt gttttaattc tggaaactgt ttgaatctta gcttatataa taaaatcaga 7980 cataaaagta gttttcagaa agtaattagt agcttcagaa tggaggagga ggtaatgttg 8040 acataattta aaactgatta caacggaaat ataacttggg caaaaaataa tttatacttg 8100 ttttggcatc agtgaaggaa gtaagctaat tgggtgtgga aaaataattt taaattttgg gaatttattt caaatctggt taccgaatgg tggctcaagg caggctacct tattgtgact 8160 8220 ctgggcgctt ttattgaaag acaagaattc caggtcctgt gcagacatac tgagttacag 8280 tgtcaaggta ggagttgaga atctgagttt tttgaacatg cttctggtga tccaagtttg ggaacttcta gtctactgca taaatgttac tagcattttc cagaattggg tataatgtta 8340 8400 cctattctat attattaatc tgcatgctca tacttaattg ctcattgtaa tatatatat 8460 ttcaacattg ggaaggaata agcatgtata ttattgtcaa gttatgtata tgttgaattt taaaatattt attgtagtgg gccatactta gactgatgga gaaaaatcat atggctttgg 8520 8580 ttttcagaga tagttctcac ttttgtaatg taaaattata aatatatacc ttaatcttat ttttgatttt tatactactg tacaattgtt aatctattta taaatcagaa aagtgttccc 8640 8700 tttaagctca cagttcttga tggttcaaaa atgcaaccaa tttatctttg ttgttggaat 8760 gtgttctctt ccattataaa ttttaaaaat tgcacctaag gatttgatgc aacaatacca 8820 cgtttcatta tcagattatt actgtaaatg ataaatcatg tatcatgttg acataattga atttatgtga tggttaactt aaacattttt ctcttccagc tttgagtctt ggtttgacat 8880 cactagtctt tctgaaactg ctgaagatat tattgctaaa gaaagagaac agaatgtatt 8940 gcatatgctg caccaggttt tccatgtttt cttattctgc ttaaccatag gctcgataga 9000 gtataaaagg aactctggag atcacctgtc taaccctttg tagtagagat ttgaaaaatg 9060 aagatcctcc tacatttaaa tgactccttt gtcctttctt ctcccagagg tcacatggtt 9120 ttatgacaga actcaagtgc ttacctaagt tttgtccttt tcagatagta tactcatttt 9180 acccctaatg gttactgata agtttgtcaa gcacaaaaca gaagtatgtg gtttttatgg 9240 aatgcttgcc aataatactt ttataattta catccttgca tggctgctgt ctaatctatt 9300 tttattgctt cctgtaattc ctacccatc ctacctatct ttaatttaga gaaacattat 9360 9420 ctttcaaggg taatctagtc atatgggcct gaaaagcttc tcagttgtgg tttagcaatt 9480 ttattcaaag tctttatcgt tttttctgat attaaagttt atacatgttc atgagaaaaa cgtgaagcag gagagaagtg aaaagtaaaa atatcacttc ctcttaaaat tgtatttcct 9540 agcagtgcat gtggaatgat tatgttgtgt tatatgacaa tccaaactct tttctgtctt 9600 9660 tgtgtaaaca cgtgtgtttt atctatattt tatgaagaaa aggactttaa aaataaaatt gttccttaag atagtctttt aaacagttat cagaaaatta ttttcctttt actacatgta 9720 9780 gatttaaatc agtttttaat agctgcttat tatcccattg tcttgttcta ctataattaa taatatctat ctcttcctct tttcaaaatt ttcaacaata taaacaaggt tgtagtatct 9840 9900 gtatttaaaa ctacaccttt gcccatttct ggctatttcc ttaggaaaga attcctagaa tgtatgtgtc agagtttaca gatgagggct tctttgaagg caaattgccc tccagaaaag 9960 atttatatga tatacgtcca tatgaaaata cttatttact caagcttcat accaattttg 10020 aggttagaag tccttttcag tgttgcagag attaaaaagg atgattattg ctgaattgag 10080 atgtttattg actattggta gttccttgtg gccatattcc aacatgtgtt ggaatattta 10140 tttattaatg gtttataata actatatgtt aaaaataagt taatgttgca aataatttct 10200 10260 ttcccctcac tttttgggat aaactttgtt tatggtatct ttgtgtgtgt tcatgtgcac aagcgtgtgt gtttatattt aaaattttct ttttttccca ctgtgactct gggcaatgac 10320 agaaatttca atgcaccaat agttatagaa gcttttaaat gtcccagtct gaattattgg 10380 agtaaatgac ttatttagga agagatgtgt ttggatatca catcctcatc agtagtgtat 10440 acatccatat agtgtagcaa aggattaagt ttctgttctt aggaaattta attagagtca 10500 agacaatgaa tatttataga atttgtcact tacacgttac ctcacagtgt atacaggtag 10560 atagatattc cttagaaatg atcatctgcc ttttgattga acatttgtag taattgtcat 10620 agttgataat tccataagag ggctcactgg aattgtttta ctatagataa cttcagattt 10680 ccattaatat taagatatga taatgaactt ttattatatc caaattcaac agttttatca 10740 aaaatagggg cagttttgaa tgttctagca ataagaatat tctctgtaat actgtgctta 10800 aatttgagtt tatattactt ttacgctttg tcctaattat gttttaatgc attactacag 10860

```
gaaaaagttt tcattcaaaa tgaattcaga ttaggtggag atagttttaa atcgctagta
tattttctta actattttct atatgaaaga attcctttcc tttttttatg caatgtttac
                                                                  10980
ataaaccttq catagtaaaa aaaatttttt ttactttccg tttaaagttc tctaagcttg
ctacttttct atttccaccc catattgaag gccaaaagca gtataacctt tacaaattaa 11100
ttatttaaaa ttttttattt taaaattatg cgtacacggt aagatatttt taaatgttat 11160
aaacatttag aaattaaaaa gtaagaagta aaaatttctg ttttccttct gcacttcctt 11220
tgttttttt tttgttttt tggtttttt tttttgagac agagtctcac tctgttgccc
aggcctggag tgcagtgagc gtctgcctcc caggttcaag cgattttcct gccttagcct
cctgagcagc tgggattaca ggcgtgtgcc accacacctg gctaattttt ttgtattttt
agtggagacg aggtttcacc atgttggcca ggctggtctt aaactcctga cctcaagtga
tctgcccgcc ttggcctccc aaagtgctgg gattacaggt gtgagccact gcacctggcc
aacagatttt tttttttt tttagagaca atgtcctact atgacatcca ggcaggagag
                                                                  11700
tagtggtgcc atcgttggtt attgggttgt tatctgcagc ctccaactca tactcctggg
                                                                  11760
ttcaagtgat cctcctgcct cagccttctg agttgctgga accaaaggtg catgccacca
ggtccagcta atttttggta gatgggtctt gtataagtct tgtttttgtc tgctttgaaa
                                                                  11820
                                                                  11880
gcttgtatac taggaaaaac atatataaat acctttttta tacatgtgtt tcagcggtat
                                                                  11940
agtgtgcctc ttcttccaca tatttgccat ttcagttaac atcaaactat agcatttgtc
agtgcatgtg gtagaaaaat atctggttat ttcatgtttt ccttacagac atggacatgt
                                                                  12000
tttttttaat tttatttatt tatttttatt tttttgagac agaatcttgc tctattgccc
                                                                  12060
aggctggagt gccgtggtgc aatctcggct cactgcaagc tgcacctccc gggttcacgc
                                                                  12120
tattctcctg cctcagcctc ccgagtagct gggactacag gcgcctgcca ctacgcctgg
                                                                  12180
ctaatttttt ctattttta gtagagacgg agtttcactg tgttagccgg gatggtctcg
                                                                  12240
atctcctgac ctcgtgatcc gcctgccttg gcctcccaaa gtgctgggat tacaggcgtg
                                                                  12300
agccaccgcg cccggccgga catgttttaa catgtttatg aaacatttac atatttttcc
                                                                  12360
tgattgcctg tcggcatatt tgtttttggg ttggtagata ccaacactgg taatgtgttt
                                                                  12420
actatctttg gtaatagtct gtctatgatt agctctatac ctgttgggta tttaagtcca
                                                                  12480
gagtcctgaa aatgagcttt attatatatg attactatat gtaaaccatt gtcagtattt
                                                                  12540
aatggcaggg gtataaagag tatacaatta tttgtttatt attattagta gtagtagtag
                                                                  12600
tattttttt gagtcaacgt ctctgtcgcc caggctaggg tgcagtggca agatcttggc
                                                                  12660
tcactgcaac ctctgtctcc caagttcaag ccattctcct gcctcagcct tccgagtagc
                                                                  12720
tgggattctg taatcccgcc accacgcctg actaaatttt tttgtttttt tagtagagac
                                                                  12780
gggatttcac catgttggcc aggctagtct caaacttctg acctcaggtg atctgctcgc
                                                                  12900
ctcggcttcc caaactgctg ggattacagg tgtgagctac tgcgtccgac ctagagtata
caatgatttt aatctagtat ttgtgctctt ttagtgaccc gaatatttta atgcataatt
                                                                  12960
attgtctgtt gcttctgtgt tctctttata aatgtgataa tcatttgtaa ccacccagc
                                                                  13020
taatgaaaga gaataatttt aagcctgaaa ctttagaact tatagaagga aacttgtatg
                                                                  13080
tctgcatccc taggtcagct ggctttttac tgagtcttaa aacctcattc tattaaaaaa
                                                                  13140
tttttaattt ttaaaaaaac ttttagtttt ttgggtacat agtagatgta tatatttatg
                                                                  13200
aggtatatgt tttgatattg atacagaaat gcaatgcata ataatcatat catggagaat
                                                                  13260
ggggtatcca tcccttcaag catttgttac cctttgtgtt acaaatgatc cagttataca
                                                                  13320
cttttgtgtg tgtgtgtgt tggagacaga gtcttgctct gtcacccagg ctggagtgca
                                                                  13380
gtggcacaat cctggttcac tgcaacctct gccttccagg ttcaaacaat tctcctgcct
                                                                  13440
cagcctcttg agtagctggg attacaggta cccgccagca cacccagcta atttttgtat
                                                                  13500
ttttagtgga gatggggttt caccatgttc accaggctgg tctcaaactc ttgacccagg
                                                                  13560
tgattcaccc gtcttggcct cccaaagtgc tgtgattaca agtgtgagcc accgcacctg
                                                                  13620
gcctctagtt atactcttct ttatatttta aaatgtaaaa gttaaattat tattgactgt
                                                                  13680
agtcaccctg ttgtgctacc aaatattagg tcttattatt tctacttttt gtactcatta
tttcaaatat ttttaatttt tattcatttt tattatttcc ccttttgtat ggtgctgata
acatctcatt ctaaaagttg tgggctataa ctgaaacttc aaccctaaga aatacaaatg
ctacctttat atttttactt ttaaaattat ttgagataga ttcttacagt ttttaaaaaga
aaataaattc tgaaatgctg cggacaactg tgagtttatc atttggtctg gtctgggaaa
atctcaagat attttcacct tttgagattt ggcattattt atataggaag tcaaaagata
                                                                   14040
                                                                   14100
aggtaaagga gtatatgggg acagtattcc ttgaaaaaca agaatgttta atactcatat
ttttctgttc atgttttaat tttagatttt aacacctttc ttattgagaa gactgaagtc
                                                                   14160
tgatgttgct cttgaagttc ctcctaaacg agaagtagtc gtttatgctc cactttcaaa
                                                                   14220
gaagcaggag atcttttata cagccattgt gaaccgtaca attgcaaaca tgtttggatc
                                                                   14280
                                                                   14340
cagtgaggta tagtggtttt gaaatgtact gtaaatgaaa cttgacatat aaaatttctc
ttttttccct ttttttttga gagaaggtgt cgctctgtca cccaggctgt ggtgcagtgg
                                                                   14400
cacaatcact gctcactgca gcctttacct gcctggctaa attttttgta ttttttgta
                                                                   14460
gagactggca tttcgccatg tttcccaggt tggtctcaga ctcctgggct taagcagtcc
```

acceaecttg geeteecaaa gtgetgggat teeaggtttt ageaattgtg eetggeetaa attccagttt taaggtcccc ttgttcattt ttaggacttg ggtgaatttc taactggggt 14640 ataaggcata aggcttagtg gcaaaagttg tttcctagta tctggagtcc tgctaaaatg ttaagtgata atctttgtat taattgcttt acagtcatct ggaatactta ctaaaaattt 14760 aggccaggca cggtggctca tgcctgttat cccagcactt tgagaggccg aggcgggtgg atcacctgag gtcgggaatt tgagaccagt ctgaccaaca tggagaaaac cctgtctcta 14940 ctaaaaacac aaaattagct aggcgtggtg gcgcatgcct gtaatcctag ctactcagga 15000 aggctgaggc aggagaatca cttgaacccg ggagacggag gttgtggtga gccaagattg tgcctttgca ctccagcctg ggcagcaaga gcgaaactcc gtctcaaaaa aaataaataa aaaaaaaatg tatatttccg tacagattaa ctctaatcat gctttctgga gatgaacttg gaaatgcatt tttaacaagc acacaggtag gtatttgaga atccctgtac taaggacttg qcaactagac taatctccag atatacagat tgagcatcca aaatctgagt tgctccaaaa tttgaaactt tgagtgctga tatgaaactg aaaggaaatg cttattggag catttgtatt ttcccgttag ggatgttcta cctgtacagt ttccttacag aaggttattg ataaccaaaa 15420 agattaataa tcaatttgat gatgattatt catcacccac catattatag gagatagagg tgggatgtta ttatcatgta actgaaggag accettaagt tttgtttaac tttccaggtt 15480 15540 ttttattgta cactataaac ctacgtattt tcttttcaaa atatttattg tgatgcattt ttaaacaata ggaccaccag actcttctcc ccccgacttt ttttttttt tttttttt 15600 15660 tgagacagag tctcgctgtg ttgcccaggc tggagtgtag tggcatgatc ttggcttact gcaagctccg cctcccgggt tcatgccatt ctcctgcctc agcctcccga gtagctggga 15720 ctacagtcgc ccgccaccac gcttggctaa ttttttctat ttttgagtag agacggggtt 15780 15840 tcaccatggt agccaggatg gtctcgatct tctgaccttg tgatctgccc gcctcggcct ccgaaagtgc tgggtttaca ggcgtgagcc accgtacccg gcctcttctc cctttttaat 15900 15960 aattaattat aattaaagga agggtctagc cgtttacaaa tttacattat ttgtctgtta atgagcaatt tcataatgag cagtttcatg cagtgttaca ccagtctgaa gaaatatcct 16020 ctgtactgca aatttccgga gccatatttc aactttaagg tattaaatcc ttttgtgtaa 16080 gttcaaagta gttttataca cccttcattt ttacctattg agatatgaag gcccttcctc 16140 16200 ttactttcag atattgttgt ccatgttaaa attaaactaa tttcccacaa catttgtatt 16260 tgtctataga ttgtcatttt gtacataaaa tatgccttat tttgtttaca tttagaacct aaggacatag ctttataaac tgaatttett ttaattegtt eeettttaga aagaaacaat 16320 tgagttaagt cctactggtc gaccaaaacg acgaactaga aaatcaataa attacagcaa 16380 aatagatgat ttccctaatg aattggaaaa actgatcagt caaatacagc cagaggtgga 16440 ccgagaaagg tttgaattca aaagtgaatt taagtattct ttaaactgtg accatttttt 16500 16560 gcatttccca tatatgcatt atttgttttg gtagagctgt tgtggaagtg aatatccctg tagaatctga agttaatctg aagctgcaga atataatgat gctacttcgt aaatgttgta 1.6620 atcatccata tttgattgaa tatcctatag accctgttac acaagaattt aaggtgaata 16680 ctgtttaatt ctaatttact gttttgattt ccattacttt tatattggtg gaaagtgtta 16740 16800 ctttttttga ttataattat taaaaataag tatggtgcta tttgtcatga agattgtaat ccttcagtaa gctgagacag tcttctttcc gaaatttcag agaaccttat cagggttaga 16860 aaaatggtca ctttctatga gcaactagtt ttttaaattt ttttatttt tatagagaca 16920 gggtcttgct atgtttctca ggctggtctc aaacttcctg gtttctcagg caatcctgcc 16980 tcagcttccc agagtgctag gattacaggc aagagccacc acgcttggcc tctatgcaac 17040 ttatattttt atttacatat tttatgtgaa caactaagaa ttctaaattt agtaattgat 17100 ttgtactctg catgtttact tgttatattt tagagagagt ggtcatcttt tcactatttc 17160 ttttatcatt aatatttggc ttatcaaaat cagcctggtt gctcattgct taaagatcaa 17220 caggtagcca tagaataaaa ccagttttga tttggaggtt ttcaaattaa gtaaatgaag 17280 ttgctttctt gggtagttga tagaatgata gcataatatc aatagaaata aattcttagt 17340 aaccctcaat cacagttgtt tcaaggtagt ttacaatagg cttttccact cctggcaata 17400 ttgacatttt gggccagata attctttctt aggaggtaat gttctgtgca cttaggacat 17460 ttagcagcat ccctgtcttc tacccattag atgccactag tattcacttc cctcagttat 17520 gacaactaaa aagtttgctg ccgctgccaa atataccctg gggataggtg gagggcaaaa 17580 ttgtccccat ttgagaggca ctgctttaca tctttattag agtaagaagg aagacaaaac 17640 tttcccactc aaatgaaagt agctctctca tgagggaatt tcaccagaag gtgaaaaagt 17700 ctttgtccac aatatttaga ttacttatca gctcctgtat tttctcttaa tttctggtaa 17760 gaattctagc agtagtttac atatacattt agttggaaat aactcactta taaagaataa 17820 17880 gcctgagtat gtacccatta agtttgacat aattgttttc tttcacaatg actttgagag 17940 aggagtgttg aggttagatc aaagttatat ttgtactttg tttttgtgaa attgctggtt 18000 ttacattcta gagtatgtct ttgagtaata actatcttct gattttacaa agattgaata 18060 acaggtcagt ttttaagttt tttaagtgac ttggctttga aaattgaact ttccaaatgg cttttgtttt aacaaagcaa ataacagttt tctctctatt ttttcttcct ttgcccctcc 18120 ttaagatcga tgaagaattg gtaacaaatt ctgggaagtt cttgattttg gatcgaatgc 18180

```
tgccagaact aaaaaaaaga ggtcacaagg tggtactttt gattggaatt ttggattgtt 18240
caattatttt tttatcaatc attagaaata ttaagatatg tttaatttca ggtgctgctt 18300
ttttcacaaa tgacaagcat gttggacatt ttgatggatt actgccatct cagagatttc
aacttcagca ggcttgatgg gtccatgtct tactcagaga gagaaaaaaa cgtaagacta
cttatgtcat acataccaaa ctattctttt ataattccta tcttgatttc tgaagtaata
ttccaaatag acccacaaat tgataaaaag atagaaatga ccagaaaccc tgtggtttta
tcaaaaacaa acattttgat ttagtactaa gaagtcttaa tttttgattc acaaatatat
atatcttctg gcacaatctt attaataata tcctacttaa ccatcactgt aagaatattg
                                                                   18720
ggatagcagg aaattttttg cctttttgcc ctgtcctcaa ctttctatta tgaaaatatc
aactatatgg caaagttgaa aaaaaaaaag caactgtaaa tccgcctaca atctgctgtt
                                                                   18780
                                                                  18840
aacatttgac tatacctttt taaaaacaca tttcctgtaa tagcagcctt gctgtatcca
ttcagcattt aatcctggtt ttttggtgca tttaaaaaata aaatatagat gatactaccc
                                                                   18900
ttttccgtaa tgacttcagc atattttatc ttttggggta aaatttacac atactgaagc
                                                                   18960
aaataatgta tacatttgct gaatctttct gacaaatgca tatgtaaatt tatacctaac 19020
ccctattaag atatagaatg ttaccatcag cccagaaagt ttcctgtgcc cccttctagt
                                                                  19080
caattctccc ctgcacccac cccatgtgtt tagacaacta caattttttc atcattttt
                                                                   19140
gatattagct tttcttattt aaacattgtt gtgatacatg gtttttaaca aaattaagat 19200
ctctttaata taggtgcttg gacgataaag ctaacagcac aggttttgtt aacataattg 19260
ttttatagat ctgaatgatt tgtttggcct cctttgttta agtctttaat agttgtaatt
gaaaacattt ttctccttca gtcttgttgg ttaatttatt ttaatctgtt gtatttacat 19380
cctttttgct tttagatgca cagcttcaac acggatccag aggtgtttat cttcttagtg
agtacacgag ctggtggcct gggcattaat ctgactgcag cagatacagt tatcatttat
gatagtgatt gggtaagttg gaagtatagc aaggaatatg ctgattatat ttccattttg
aattttttt ttttttgaa atggagtctc actctgttgc ccaggctgga gtgcagtggc
acgatctcgg ctcactgcaa ccttcacctc ctgggttcaa gtgattctct tgcctcagcc
ccctgagtag ctgtgactat aggtgtacac cacaatgcct ggctaatttt tgtgttttta
gtagagacgg ggttttgcca tgttggccag gctctcttga atcctgacct caggtgatcc
                                                                   19800
gcccacctcg gcctcccaaa gtgctggcat tacaggcttg agccaccaca cccagcctcc
attctgaatt ttttttttt ttttttttg agaaggagtt ttgctcttgt tgcccaggct
gggattaagt gctgggatta ccagcatgag ccaccgcgcc cggccattct gaatttttaa
tttttaatgg tacatgttac aaatttactt atctattttg aaaagatacc cattttcagc
                                                                   20040
taagagttat ttcttcataa agttttttgc aagtaaaaat tgaaaatttt tttttacttt
                                                                    20100
tgtttttagt gacagggtct cactatcacc caggcttgag tgcagtggca ccatcacggc
                                                                   20160
                                                                   20220
tcagtagcct tgaccttttg gattcaagtg atcctcccac ctcattctct caagtagctg
ggtctatggg tgtgctacca tgcccacaaa aaatgtaaaa attagtgaga ccacgtctca
                                                                   20280
                                                                    20340
ctgtttgccc acgctggtct tgtatcctca tatgatcctc ctgccttggc ttcccaaaat
                                                                    20400
gctgagatta taggagtgag tcatcgtgcc catcctgaaa tgttttcttt agggtattta
aacttttttg ttaatattgt caaggatctg tggaatgata attttgtcta tgaagccact
                                                                    20460
                                                                    20520
ctggaagttt aaattaagac accactattt aaaagttcct ggctagatca ttcatgttga
                                                                    20580
ctttatccac atgagtttat gttaatttta acctaatacc gttaaatatt atttttcttt
                                                                    20640
ttaactttaa gaacccccag tcggatcttc aggcccagga tagatgtcat agaattggtc
                                                                    20700
agacaaagcc agttgttgtt tatcgccttg ttacagcaaa tactatcgat cagaaaattg
tggaaagagc agctgctaaa aggaaactgg aaaagttgat catccataaa agtaaataac
                                                                    20760
acttatgtag tgctttattg tttaaattgt gcattgtgtg ttgtggattt tgtttttatt
                                                                    20820
ttgtttataa aatattacag cctgggccga gttctgtgtc tcacacctgt aatcctagta
                                                                    20880
ctttgggatg ccaaggtgag tggatcacga ggtcaggagt tcgagaccag gctggccaag
                                                                    20940
atggtgaaac cgcgtctcta ctaacaatac aaaaattagc tgggctcggt ggcgggcgcc
                                                                    21000
tgtaatccca gctactcagg aagctgaggc aggagaatcg cttgaacccg ggaggaggag
                                                                    21060
gttgcagtga gccgagatcg tgccactgca ctctagcctg ggtaacagaa caagactctg
                                                                    21120
tctcaaaaaa aaaaatatta acagcctgat atgacaggat ttaaataagc agtggggaat
                                                                    21180
ttgggagcct aaactaagtt ggtcaccata gacataaaag aaagaatgtt agcgagtatg
                                                                    21240
tagatatgta gatgaagagc agatgggcag agaaaagggg tcaaggataa ctacatgttc
                                                                    21300
ctgataagag attggcttgc taaaagtttt aagataaata ttttgcaagt tccatgtatt
                                                                    21360
aaaatattaa gtgtatttaa gtgttataaa aaatctattt atttattgaa cccactgttt
                                                                    21420
cacagaatat ttcactgcag aatgcccttt ttatagtttt ggacactttt ttttcctttt
                                                                    21480
tcatttcctt atcataacca gatgggtctc aacaatgctt tttaatctag aaaaaattct
                                                                    21540
gaggaggtgg ggaactgaca taggtgaaaa agttttgttc ctgagattcc ttagagaagt
                                                                    21600
tatacttcta tccattcacc ataaaatttt ctttgaataa atggcttgat agctacctga
                                                                    21660
agaaatgttg aaaatcattt atgtaaatca tcaagcccta gagaaatggg aacatgataa
                                                                    21720
tgttaatgtg aaaagtaatg ttggaaatca ctaataattt attttatact ccttttccac
                                                                    21780
 ttgtaaatac tttctctggg ttttgaggta agagtgtatt aaggtttaga caaaattaat
                                                                    21840
```

ttggtgaaac atttagattg taattggaac ttgcattggg gaaaaagcat aattttttt taagagacca tttaactttt ttacccaggt tgttctcgaa cacctggact caagtgatcc tcctgcctta gcctcttcaa gtgttgggct tataggtgtg agccactgtg ctcagcccta ttttcgattt tttagtagat taattttgta gaaaattttg aagggatttt tttaaatgct 22080 gacatttttc agttgagtta ttacatacat acagcaaaat gcacagatct taaatgtaca 22140 ggttaatgaa gtttgaccag atttatgtac tcctatgtaa ctatcatcga gatcaaggta 22200 gcattttcat catccaagaa attttctttg ttcacccttt ccagtaattc ctatgctccc 22260 cttaccatca ctaggaagca tccagtattc tgatttttgt cacactgatg agtctttttt ctgtttagct attttgttga atatatttt tcaacacaga gtcatctgtg ttgtttttag tagaattttt ttcttttaat tggtgaatag tttgtttttt ccattctcct gttggtcgac atttaaatta tttctagatt ctggttatta tgaataagtt ggtcctgtac aagtctttgt qqacataatq cattttttgg tccttgatct tagggagggt gcgtgtttaa ctactggaaa ctaccagect tttccaaagt ggacatatca ttttccagtc ctaccagega agectgagag cttcatttgc ttttatttt tatcaacact tttttttgcc gtccttctta atgcaagcca 22740 ttgtgattgg tttgtaatat gttgtattgt agttttaaaa ggaattttaa tgtttttaat 22800 ttctcatttt ttttagatca tttcaaaggt ggtcagtctg gattaaatct gtctaagaat 22860 ttcttagatc ctaaggaatt aatggaatta ttaaaatcta gagattatga aaggtgagtt 22920 tttaatttta gaaagattta atttgtagct ttgaattatt cacatagact tgaatatttt 22980 gttttctata gggaaataaa aggatcaaga gagaaggtca ttagtgataa agatctagag 23040 ttgttgttag atcgaagtga tcttattggt aagtattatg ctttttttta atggaagctt cgaaacatac acttaattag cataatgtaa tgaacccctt gtgcaattca ttcagccaca 23100 tgtatccaat cttgttttat tgtcattttt cttcttagag tattaaaaatc aaatctcaga 23160 catgacattt tgcccataaa tgtcattatc tttaacttct tccataattc agatattttc 23220 tgtaaactgg taaataacac ttgtaaatga atatattcaa gttcctgtct tagttaagaa 23280 taccagtgct ttgttctcat atttttcgtc ataccaggag gcacatcgta tctggatttc 23340 ttatttccag tgagctaaga ttaatcaaga taatgttata aagtgtcttg tcagccttca 23400 23460 gccctgtcgc ccaggctgga gtgcgctgac acgatctcag ctcactgcaa cctcagcctc 23520 ctgggttcaa gggattctcc tgcctcagcc tccctagtag ctagtattac agtcgcctgc 23580 caccacacct ggctaatttt tgtatcttta gtagagacag ggtttcgcca tgttggccag 23640 gctggtcttg aactcctgat ttcaggtgtt gtgcccaccc cagcctccca aagcactggg 23700 attacaggca tgagccactg caccaagcct aacgtggtga tttttagtat cccttgaaag 23760 tggctgataa gaaccattat taacttaatc attgcaaaat ggtgattttt cttgttctgt 23820 cattetttta ttagetgggt tatttaagaa ettteeetta eagttteeet gagatagaag 23880 agagccagga tatattgctt ctttttttt tttttatcag tttttagaat accaccttat 23940 gatctgatgc ctacagtgat gaccatgaat tattttgaaa acaaaaataa tattttgtac 24000 ttcataattt cctaattatt ttacaacata ttactgtcgt ctaggctatt gattatttgt 24060 ctgttgcatc tgtatggtgg agatactgta taatcttttt ttcccaactg tattccgtga 24120 cattttggtc ttttgaaatt ggtgatggca gtaacattca tatcacggat acaggcagaa 24180 24240 actagaaacc ccagtctttg tttttaacaa aaaagggtct tgctttgtat tcctggctag aatgcaggag tgcgactata gctcattgca gcctaaaagt cctgggctca agggatcctc 24300 cagcctcagc ctttggagta agctgggatt ataggcatga gccattgtgc ctcagttttt 24360 gttttttttg agacccaatt gttaaacatt tacctgcgtg gcactggcta cagtgtcatg 24420 atatcttatt ttcaaatatg ttgttcattt taaaattcaa ttctgtgtct tattgaatca 24480 24540 aacattttct tctactctgg cctgtctctt cacttactta cttagtatct tctgaagagc aaaagtttta aattttaatg aatttcaatt ttaacaaatt tttttctgtt cactcatgat 24660 ttttatgtca tctgtaacta ctctttgcct aattcaaggt gttgatattt tcttttaata 24720 gttttatagt ttttgctctt acatttagat ctatgatcta ttttcaatga attttcatct 24780 ttttgcatgt caatattaat ttgttaaaaa gatgatcctt tttctattgg atggccttgt catccttgat gcaaataatt tgatcataaa tataaggatt tatttctgta ttctcaattc 24900 tgtcccattg atctctgtgg tattcctatg ccagtatcgc actgatttaa ttaaggtagc 24960 tttatgggaa gtgtactttc tctagttttg ttctttttca aaattgtttt agatattctg 25020 25080 gattatttgc atgtttattt gagttttaac tttgaaatag tttagggaga aatatgagac atacagcatc atggtcaaat ctaaactata ttaaaaaaaca acattatgtg aggcatgtaa 25200 ggactgttta acatctgata atataattca tatcaattaa ataatggaga actagatgat cacctaatta gataccaaaa accaacttgc cataatatcg taatcatctt cataattttt 25260 25320 ttttatttga gacaaagtct cgttctgtca ccgaggctgg agttcagtgg tgtgatcatg 25380 gctcactgca gctttaacct gctgggctca atcaatcccc acacctcagc ctcccaagtt 25440 gctgggactg caggtgtgat tactatgtcc tgctaatttt gttttgtgta ttttgtagag acaggggttt gccatgttgc tcaagctggt ctcacactcc tgggctcaag tgatctgtct

gcctcatcct cctaaagtgc tggcattatc gaaactgctt ttatttgcaa gtggtctggt ttgattatct tcataggaag tccaagggaa tccagaatct tttaaaaatag aatttaagaa 25680 gattgcttat taataatatg tgtaacagca ataattgttt aataatgaag gtttttacaa 25740 cagctacaaa attaacatgc ctacaattaa agtttaacaa tttttaacat gtttatataa 25800 ggacagaatt atgaaacatt gaaggacgtt aatagaaaga ctgagtaaac atgcagattt 25860 agctgtattt gtggatatga atggttacta caaagtgtaa gtcagtggtc cccaaaacta acttatattc ttgaattttt cttctaatta aaatcccaga atgatggctg ggtgtggtgg 25920 25980 ctcatgccta taatcctatc actttgggag gctgaggcag gtggattgcc tgagctcagg agttagagac cagcctgggc aacacggtga aaccctgtct ctactaaaat agaaaaaatt agcggggcat ggaggcatgt gcctataatc ccagctactc agaaggctga ggcaggagaa 26100 ttgctagaac ctggcaggtg gaggttgcag tgaatggaga ttgtgccact gcactccagc 26160 26220 26280 tttgtaaaac agactgttgt taaaatttat atgagagagt aataaagggc cagaaccaag acagttttga agcacaagat attctatacc aggtataaag tcttattaaa aatttaaaag tcataataat caagatggta gaattagcac atggtgtgat atattggcta gaagtacaat atggtgaatc tagaaagaca actttcacga aaagctaata aatgtgaaat ggaacttcaa acaactgata ggaaattcct attaatcaat agatgatctg gggaaatagt aattaatagg 26580 ggaaaaatta acttagattc tcctctcctc acactgcact tacaaacttc agataaatta acaatccacg tgttcaaaac ctaaatatta aaggtagaat tttaacctaa aaagacaaga 26640 26700 aaatatattt atgattttag aattagaatt ctttataata cagaaatcac aaattatatg 26760 ataggtttca tagattttaa ttacattaat aggaaagact actataagac agatgacacc 26820 ataaagagat aagagacaaa ccacaaataa tatttgcaac atataacagg aagtgtttag 26880 gatatgcaag taaataaaag ttgataatga aaacggataa tataagagca ggctattacc 26940 aaqaqaqaaa gaaatgtctg atgaacagac aaggatgatt agaaatcagt aatacaaatg 27000 aaaatcagat ttcatttcac agctgtcatg ttgataaaaa tttaggagac tacatattgt 27060 cattgattca aaatgtttct caaggtaagc tttttgtggt gtgttttcag ctattaaacg 27120 aatcqtqatt gggcctcttt ttaaaacgtt tctgacaaca tgattcaaat tgatattatt tattgctctt tgacttgttt atcttacctt aaattcagca aaagcgattt tgactagcaa 27180 27240 actgatgctt tagattgtat gctcccaaga gtctgattct agttgttgta ttaagaatag tgtacctttt tgctttcact gctattaaat cttggtgatt aaggaagaga gtgccctgta 27300 ttactgtgag ttttataatt ttggacagat gactcacttc tcataacatc atattggatg 27360 tttcttttac gatttcttct tcttatactt ctaaaatgta cctgttttaa tgtttttccc 27420 ttagatcaaa tgaatgcttc aggaccaatt aaagagaaga tggggatatt caagatatta 27480 gaaaattctg aagattccag tcctgaatgt ttgttttaaa gtggagctca agaatagctt 27540 ttaaaagttc ttatttacat ctagtgattt ccctgtattg ggtttgaaat actgattgtc 27600 cacttcacct tttttattat atcagttgac atgtaactag taccatgcgt acttaaatag 27660 atggtaattt tctgagcctt accaagaaca aagaagtatc catattaagt ttagattttc 27720 agttaatttt tgagactgag tagtattctt ggatacaggc tgatgtgtac ttaaccactt 27780 ccagatttat acagtcttcc tgtggaagtt tagtaaatgt ctttttccct cctttcttct 27840 agtaatgcag ttcatgggct ttaggtactt cagttatgaa gtaggctttt catggggaga 27900 27960 gattgggatt atgctctctg ttgtttaaga aactgtttga ttttagagtc tatttctatg agatagttta ccaaataaat gttccttata agatgatctc attaaattat ttcttcagga 28020 atagcttagg tgcaataata gcaaaagact tggctgtcgg taggatttgg ttattttgtt 28080 ttcttggttt cattcactag tactatagga gtgtgtcata tagagatttc aagtggacat 28140 tgtgttagca caagagaagt ttctgaatga aactttaggg tcttgagaaa cgactagaaa 28200 ttggaaatgg tagtgtatca tgcaaaacaa gacagaccct gaaaatttat agtagtgggt 28260 taactagaac caaatataag agaataggcc ttaggaatat gtaagtaatg cacaatctgt 28320 aatagaacag cataaaggcc aaaagaggca caatttagac cctgtgtgaa aggatatcag 28380 28440 acaatgagga agagaaatcc tgaatgtacc ctggagaggg gacatactcc ataagccata catttctgtg ttagtgttta tttcatggaa aaatattgct gttgccatgt atattcaaat 28500 gcagatcaga tgatctgtta aggataatgg aaccgtcact taagaaaaac ttaatttttt 28560 ttccctgtgt cctattggca caggtctttt cttttaaatt tttattttaa tcgttttgag 28620 gtacaggtgg gttttggtta catggataag ttctttggtg gtgaagaaaa acttcagata 28680 gaacatttgg ttaaataaaa gactatagag caggtttatt tgttttttaa gtcaaaatgt 28740 taacccatta cataagcatg ctgacctagg cttgcttgaa actcgtgatc ttgtccttag 28800 tgacccagtc tttcctgtta cattgtccta aatgactggt ttcatagttt tactctgtca 28860 ttgcacgtct catatctcct ccctctcact ttgctcccta ttgccctgag aaaatagacg 28920 cagtcagaaa agaatcttta aaagttgtca ccgttgcatc tgtaaaccta gcatctgtgc 28980 ccatctgtcc ccatctgccc tttattatat actgcggata tattgtttgt cgtagcttga 29040 gccaattgca atgtctcatt tcttttataa caaagctcct tgaaaaagag ttctattata 29100 gcaaaactcc ttgcctgtat tcattgtttt tagtttgttc tgttttttct gaacccattc 29160

tagaagaaat ctctctaagc

```
29220
caatcagata ttcatttcca ttggagctgg tatttttaag gtctcgtgac gtcagtgacc
tcattttact tgatctatta gcagcatttc atacagttgt tgactcttct ccattaaaac
atttacttta tttggcttct aggaaacata ttttcctgct ttttcttcct atttctctga
ctcttttctc agtttccttt gctgtttcct tttctatcct ctaaacattg aaatatccta
agcctagttt gggattccct tgatggtctt catttcttta atgggaactg tgctggtgac
tcaaatttat atctccagcc agaacctttc tcctgaattc cagattcaca tatccgactg
tttactaggt gcttgataac tatatctgta cttttcatct tgtttaatcc aaatttactt
cttttgcatt ttccttagtt caataaatga caactttatt cttccagtta tttaaaccaa
aaatcttaga gtcattcttc tcttccttcc ctcatatttc atgtctgatt ctaaaggaaa
                                                                    29700
tottqttqcc tgtacttttt ctttctttcc tttttttccc ctttttttga gtctcgcact
                                                                    29760
gtcgcccagg ctggagtgca gtagtgcaat ctcagctgac tgcaatctct gtgtcccggg
ttcaagcgat tctcctacct cagcctcctg agcagctggg gttacaggtg catgccacca
                                                                    29940
tgcctggcta atttttatat ttttagtaga gactgggttt caccatgttg gtaaggctgg
                                                                   30000
tctccaactc ctgaccttgt gatctgcccg ccttggcctc ccaaagtgct gggattgcag
                                                                   30060
gcgtgagcca ccacatctgg ctttttttt ttttttttt ataaacagtt tcacttcgtc
                                                                   30120
acctgggctg aagtacagtg gtgtgatctt ggctcactgc aacatctgcc ccccgggttt
                                                                   30180
aagtgattct cattccttgg cctcccgagt agctgggact agaagtgtgc gccaccacac
                                                                    30240
ctggctaatt ttcttatttt tagtagaaac gtggtttcac catgttggcc aggctggtct
cgaactcctc acctcaactg atcatctgcc tcggactaag tgctgggatt acaggcctga
                                                                    30300
                                                                    30360
gccaatgcgc ccagcctact ttctataaaa gtcgtcatgt ctctgccccc acccccgcc
acccccaca tagtctgttt catttgattt tccccttagt ttagtgtttt attttgatgt
                                                                    30420
ttcttcagat gccttgggat catttactgt tcctcatatt taagagcaaa tgcttaaaaa
                                                                    30480
ttcttagaaa taccttcttg aaaagcctgc attcctacca cctctcacca cttcaacatg
                                                                    30540
aaataatgat cccttacatc tttttagtgt agttatataa cttttgattg gctcaataat
                                                                    30600
tacttttatt atggctgtgt aagtattatt aaagctttag ataagccatg gaatatgctg
                                                                    30660
tgattttatt ttcattcttg tgcagctttt tttttctccc tgaagttaat acttaactgt
                                                                    30720
tttttaccta ccagtaattt atatctaatc actctggaaa tataagcccc tcagtatatt
                                                                    30780
                                                                    30840
aaaacagatc tcatgattca gtaataaacc tccccctcca aatatatccc atcacctcta
ctccctggaa cattcttcta gtttggactg tagaactgat tccatctgga accttccttt
                                                                    30900
accatactcc tgggtattcc tgttggctgt ttcatgtttt ggaattactg tttactgtgt
                                                                    30960
cttgtgtctc cccccccc ccttttttt tcctttaaga cagagtttca ctcttgttgc
                                                                    31020
ccaggctgga gtgcaatggc ttgatctcgg ctcactgcaa cctctgtctc ccaggtttaa
                                                                    31080
actattctcc tgcctcagcc tcctgagtag ctagaattac aagcgcccac caccatgccc
                                                                    31140
agctaatttt tgtattttta gtagggacag ggtttcacca tgttggccac gctggtctcg
                                                                    31200
aactcctgac ctcaggtgat ccaccctcct cggcctccca aagtgttggt actacaggtg
                                                                    31260
tgagccactg cgcctggctg gatctaactt tttttcctcc ttggtttact cgctcacttt
                                                                    31320
gatggattat gttgtcttgt gttttcccaa gaaaagaatt caagggaaat gaattttttg
                                                                    31380
agaactcgca tatctggctg tatttttgtt ggattcttat atttgatgga tagttctggt
                                                                    31440
ttgggatttt agagtaggaa ttattatctt ctcagaattt cgaaagttgt tgtgttgtct
                                                                    31500
cagaacttcc agtgttgtgg gagagaaaat taatggttcc ttttttttt tttttttt
                                                                    31560
gagacagggt ctcattctgt cacctaggca tgaatacagc tcactgcagc cttgacctcc
                                                                    31620
cgggctcaag tgatcctcct gcctcagcca ccaatttagt ttggaccaca gccatgcacc
                                                                    31680
aaatgccctg ctaaattttt aattttttgt ggagacaggg tctcaccatg ttgcccaggc
                                                                    31740
tggtcctgaa ctcctgggct ccagcaattc cccccggctt ggcctcccaa agggctggga
ttacaggtgt gagctcctgc acctggcccg aatgctgctt tgatttccag tctgttgaag
                                                                    31860
gtggggggaa ccagcctttt gttaatgtga gcttccagtg tttctttgtc ttttgtattc
                                                                    31920
taaattaata acacagtgat gtgtcttggt atgggtcttt tttttttttc tttttttt
                                                                    31980
tcatttttaa agagactcct gctatgttgc acagacttgt gaattcctgg tttcaagtta
                                                                    32040
tctttccccc tatgtcactc aagtaatgtg gactacactc atgtgacacc atgcccatct
                                                                    32100
ttatgttgtg tatcttattt ttgttttgtt ttactcttga atcagctcag tctgaaaatc
                                                                    32160
tgtcttttaa ttcatgggga ttttttagaa tgatttcttg gagggttttg tcttttgaat
                                                                    32220
gtgtggtccc ttctctgcct agaatttttt tgtttgaatg agacatggtc ttgctgttgt
                                                                    32280
ccaggttgga gagcagtggt gcaactatag ctcactacat tcttgaattt ctgggctcaa
                                                                    32340
gccatcttcc catctcagct ttcagaatat cttggctaca ggcatgtgac actatgccca
                                                                    32400
gataatttaa aaaaaaaaa aaaatttett gagacagggt ettgetatgt tgeecagget
                                                                    32460
                                                                    32520
cgtcttgaat tcctgttctc agagggtcct cctatgtttg cttcccaaag cattggtatt
atatgtatga gccaccacca ctagcacttc tgcctagaac tcgtaacaaa atttctttcc
                                                                    32580
                                                                    32640
cccatctgca tagtcttgtt tcattaaatg attcttccct ttttaaagtt tagtctgtct
tttattttga tgcttcttca aatgccttgg gatcatttac tgttcctcaa atttaagagc
                                                                    32700
                                                                    32720
```

<210> 12712

<211> 8056 <212> DNA <213> Homo sapiens <400> 12712 ccccactgcc ccctcccca attatccttc cccttccctc caggtctcgg aggaccccat 60 cctagcccta cctgtctcgg cccgcaacct ccccgaagcc gtcggtgcca ctcccagccc 120 atgtgggccc ccgcgggctg cccacgcctg tcccccagct ccccgttccg ctgggcttta 180 ccctcgccag gggtggcttt ctgagccgcc cgctccgtgc ccctctctgc agcctctcct 240 300 gccactcggg gcccccgttc cccctcccgg cggcgggggg ctgcccccgg ggggctggcg gagctgggcc gcgggggccc cggggccggc ggtgccgggg tcatcgggat gatgcggacg 360 420 cagtgtctgc tggggctgcg cacgttcgtg gccttcgccg ccaagctctg gagcttcttc 480 atttaccttc tgcggaggca gatccgcacg gtgagccagg gtgggcgctg gcggtgttgg ggacgtctgg cggtgttggg gacatctgtc cgtggtgctc aggggttttc ggagtgtcgg 540 600 gcctctgttt gggcctagga agggaatcct ggctggggct tttctcgcca gagaattggg caccctaagc ggggcgaggt gggagaccct tgtaatagaa ccttgccctt gggggttttg 660 720 atggggctag atgggacagg atttggcaac tcttgggggc taaggtggtg ggtggggcgc 780 tctttaagaa agctggagtt gttgctaaag aaaccaagag gcggggaaca cctgtttgat 840 gacagccgga tctgtggatg tgggcttggg aaagacccta tttggaacct cggtgtgtgt ttggtcctat aacaaggaag agacagactt gtgtgtcaag ggtggaggtg ggtgggaggg 900 960 catacgttac aaacaaggac gggaacttgg gaaagccctg ggtgtgaagg agaaacgcct 1020 gcggttccca ttaagagaat tcctccaaaa aggctgtgaa aatttatttc atagtgtgag 1080 tgtaggtatc tggatttatt gaagactaaa gcagatgctt ttacgatggg cctctttaat 1140 tgtgggaggg agttcaaggt gggtgctgtg cccaccattg aagtttgggt gtccctgtca 1200 gaggacagcg ctgggcagtt gtagggcttg aaaatgagga cgtttgcttc tccaggagag cctagcattc tgagggaaac tgtccggatg gacccaagca tctctgggtc ccctctccct 1260 tagcttttct ccaaggtcag aggtccttca gctaacagca ctttaaatga atgtgctctt 1320 1380 gtggtctcac caccaccagg gagaatcctc ggaaggagtc tggggagaat ttagtaagcg 1440 gagacacagg ttctgggtct gtactgtggt ctgtacccct tagcatacct caatacaatt 1500 tgaaagaata aacccaggtt ggggtgacct ggggtccaga gaatttccag aaagccctca gtggtagtgg tggttgattt aactgatttg ggagaatggg tctggccttg ggttcattct 1560 gtcctttacc agtctgcttc cacttcctga tttagggcgc gaacagtaca ggatggttgt 1620 ggctgtaggc agcagcgcta ttcccccgag acaagagcta ggagccaaga aaaatttagg 1680 1740 1800 cagteteget ttgtegeeca ggetggagtg cagtggtgee ateteegete aetgeaacet ccacttcctg ggttcaagcg attctcctgc ttcagcctct cgaatagctg ggattacagg 1860 cacctgccac cacacctggc taatttttgt aattttagta gaaacgggtt ttcaccatgt 1920 tggccaggat ggtctcaaac tcctgacctc aagtgatctg cccgccttgg cctcacaaaa 1980 gtactgggat tgagccactg cacccggcct ccagcggttt tctttatggg ttgactgcca 2040 2100 tcttctctga cgttctcgct ccaacacatc agttttctgg gcatacggag tggtgcttca gctcatccac aggttacttc caaaattgct ctcctttggg cagcactgac cccatagcct 2160 2220 tttgtcctcc cttcccttcc aatctggttt ctttccccac cccgcttctg gcagatgctt ggagcattcc ctacatgccc agcatatgca acccgagata gcaaggctgg acactggagc 2280 tctttcggac ctcatcatgg cccagggaga aaagaagggc agatcttgat tagggggaga 2340 2400 gagccctgtg ggtttagaag ggagaacctg gttctggtgt ggcttggggc ctaggtatgc actgaagagg gtttgtacct ttgaagaaaa gtgtggaaga gggaattgcc aggctttgta 2460 2520 tggggagatg tgcgtattag gaaatagccc ctagagaatg cttggagaag cagagctgga tgaggtggtg acgtccttgt cccttattca cctctcactt aacggccctg acttcactct 2580 ggcctcctcc agaccctgcc agtcagcctg gcaggggctt tccagtgttc tttgcctcac 2640 2700 cctgggtacc aggataagga gactgttcag agggctgagg ttctctgaac ttgtgacttg gctagaaggg acagaagtgg acaggtggct ggttaaaata ggcctggtgg cttctagcca 2760 2820 gaggaactta gctgacctga caacctctgg attccctcat tctatattcc cattaaggac 2880 ccagggatct cctcccgact cctactccat gtgcactagg gaatctgagg cacttagttc 2940 ccaatgatgg tagttgctac aaataattct tggggtgaag gttgcgttgt gggggtcgtt 3000 tctttgttca gtgtagcagg ataatatcac agttaagagg gcagcttcgg ccgggggtgg 3060 tggctcttgc ctgtaatccc agcactttgg gaagctgagg caggtggatc atgaggtcag 3120 gageteaaga eeageetgge eaatatggtg aaaceeegte tetaetaaaa atacaaaaat tagctgggcg tggttcgcgc gcctatagtc ccagctgctt aggaggctga ggcaggagaa 3180 ttgcttgaac ctgggaggtg gaggttgcag tgagctgaga tcgcgccact gcactccagc 3240 3300 gttcttgggt tgaactgcat tggtacaatc ctggctctat cacttcattg attctacttt 3360 3420 ttttttttt tttttttt tttttgcgac ggagtcttgc tctgtcacca ggctggagta 3480 cagtggtgcg atctcggctc actgcaacct ctgcctcctg ggttcaagcc actctgctgc 3540 ctcagcctcc cgagtagctg gggctatggg cacgcaccac cacgcccagc taatttttat 3600 atttttagta gagacggggt ttcaccatgt tggccaggat ggtctccgtc tcttgacctt 3660 gtgatccgcc tgccttggcc tcccaaagtg ctgggattac aggcatgagc cactgcgcct ggctgattct actaatatca actgaccact tttgctactg tgttctaggc actgggaata 3720 cagccatgat ctagacaaaa tcatattctc atggagtttt cattttaatt agggagagaa 3780 acaacttaag ataattccta gctgtgtggc ctcagtttct ttaaccttaa aacaggtata 3840 acagtaatat tatggttgtt ttgaggatta aatgaaaaag gccagcgtag tggctcattc 3900 ctgtaatccc agcactttgg gaggcaaagg caggaggatc acaaggtcag gagtttgaga 3960 4020 ccaqccaqqc caatatagtt aaaccccgcc tctactagaa atacaaaaat gagccgagcg 4080 tggtggtgca cgcctgtagt cccagctatt agggaggctg aggcaggaga attgcttgaa cctgggaggc ggaggttgca gtgagccgag atcatgccgc tgcactccag cctgggcaac 4140 agagcgagac tccatctcaa aaaaaaaaaa aaaagaagaa gaaataagcc taaattacat 4200 4260 acatagtacc tgtggtaaat gttcattatg tgctccctgt tactgttact ggggaaggct 4320 tccttatcaa gggtttcaat cctcttttgt gctatttgta ggtaattcag taccaaactg 4380 ttcgatatga tatcctcccc ttatctcctg tgtcccggaa tcggctaggt aagtatgtgg 4440 tgggaagcct cctttagggt gaagtagggg ctagctctgg gtcagaggtc ggtcaatatt 4500 attcctcccc actctggttc agcccaggtg aagaggaaga tcctggtgct ggatctggat 4560 gagacactta ttcactccca ccatgatggg gtcctgaggc ccacagtccg gcctggtacg 4620 cctcctgact tcatcctcaa ggtgtgtggt ggtggggagt gatgaaatgg ttccatctgt 4680 tectetgeec aaacetggae tecettteec agteecagag catetgtete cateegetgg 4740 caccagtgtc agcctggagg agggaagcag atgggtgggg cgttttctag gcctgggttg 4800 tggtggtcat gacatcccc agcccatctt gttcctctgt aggtggtaat agacaaacat 4860 cctgtccggt tttttgtaca taagaggccc catgtggatt tcttcctgga agtggtgagt tttggagagc taaagggagc tctgtaatga aggaatggtt ttagggctct gggaattggg 4920 4980 aggatttgga ggaaggggtg aggagaaacg ggttagagca gttttctaga ggggaggctg tgtaatggta ggggagtggc tttcagtact tgggggttcat ttgttgtgct gatgtaattc 5040 ttttccgctg gcatctttct cttttgttct tgcatttctg aatcataaga gtgtaggatg 5100 5160 cctaacactg agtttggagg tttgggctgg gggttcagaa tttcgtgtcc tcagagacat ttgatgttga tggaaggcct gaaggactat gccattgcct ttctgaaaga taactgtatg 5220 tctaaaggaa tcatcacctt gtatggcatc gccctctccc ccaatctatt tcaggtgagc 5280 cagtggtacg agctggtggt gtttacagca agcatggaga tctatggctc tgctgtggca 5340 5400 gataaactgg acaatagcag aagcattctt aagaggagat attacagaca ggtaagctag 5460 aatcccagtc taagagtgtg gcttgggagg gaggccacca gggagggatc tgggtttgag gagagtatcc tggagagagg cctgctacat gatcccctgc cttccagcac tgcactttgg 5520 agttgggcag ctacatcaag gacctctctg tggtccacag tgacctctcc agcattgtga 5580 tcctggataa ctccccaggg gcttacagga gccatccagg tacgggggaa ggtggtgagt 5640 5700 ctggcaggac cagaacatgg ttctgagaag gtatttttgc aggagacctg ggctttggtc cttgagagct gggattccct agattatccc tagtttgctg taagtcgaaa tgcaagttat 5760 5820 ttttgtgttt caaatgagat accatatatg tccatttcat aagtcggatt tcttatatca 5880 tttttttcat ttttaaaatt tatttttggc tgggcacggt ggattatgct tgtaatccca gcactttggg aggccgaggc aggcggatca cgaggtcaga agttcgagac cagcctaaca 5940 aacatggtga aaccccatct ctactaaaaa tagaaaaaac tagccaggcg tggtggcgca 6000 6060 cgcctgtaat cccagcaact cgggaggctg aggcaggaga atcgcttgaa cccgggaggc ggaggttgca gtgagccgag attgcaccat tgcactccag cctgggtgac agagcgagac 6120 gccgtctcaa aaaaaataaa taataaataa ataaaaataa aatttatttt tatttatttt 6180 ttgagatagg gtctcactct gttcccaggc tggagtgcag tgtcatgatc atagctcact 6240 gcagcctcga tctcccaggc tcaagtgatc cttctgcctc agcctctcag tagttgggac 6300 tacaggcgtg caccaccatg cccagctaat ttttttattt tttattttt tttgagacag 6360 agtctcgcac tgtcacccag gctggaatgc agtggcgtga tctcggctta ctgcaacctc 6420 cgacttccag gttcaagcaa ttctcctgcc tcagcctccc aagtagctgg gatcacaggc 6480 6540 acctgccacc acgcgcagct aatttttgt atttttagta gcgacggagt ttcaccacgt 6600 tggccaggct ggtcttgaat tcctgacctc gtgattcgtc cgctttggcc tcccaaagtg ctgggattac aggcgtaagc cactgccctt ggccaatttt ttgattttta gtagagaagg 6660 6720 gateteatta tgttgcccag getggaetea aacteetgag etcaagtgat eetcecaeet 6780 cggcctctca aagtgttggg ataacaggtg tgagccactg cgcctggcca agtgtgtttc aagtgaggca caatggcagt aagcttgact agaagcatca ataggtatga gatctggtga 6840 ttaaaactta gtttcggagc ataaaccagg aaagttttac ttaggttgtt gacttccggt 6900

```
6960
agtgggaggc atatattttt aacaataatt cctccttccc tccaagaaga gaaaaacacc
gtctctcttg aattctgttt cttctcatct gcattttcac ccaccctaga caatgccatc
                                                                     7020
                                                                     7080
cccatcaaat cctggttcag tgaccccagc gacacagccc ttctcaacct gctcccaatg
                                                                     7140
ctggatgccc tcaggtaagg gaagtgggct ctggacactt ggatatctca agaaaggagg
                                                                     7200
aggtggggga tcctcagagg gaataaaaaa ggtttgtcct gttttaactc tgttccctta
                                                                     7260
agaatttaac atttggaccc aggtcgtctt acttcaaagc tcatcacttt agctagtagg
ctgtgggcaa attgaaccta tctaatcatg aatatggtga taatttaggt cccacatctc
                                                                     7320
cagtgatgct gccttacaag agtgttgtga gggtatgaac tataaggtac tctaccaatg
                                                                     7380
caagttattg tcaccccagg ttcaccgctg atgttcgttc cgtgctgagc cgaaaccttc
                                                                     7440
accaacatcg gctctggtga cagctgctcc ccctccacct gagttggggt gggggggaaa
                                                                     7500
gggagggcga gcccttggga tgccgtctga tgccctgtcc aatgtgagga ctgcctgggc
                                                                     7560
                                                                     7620
agggtctgcc cctcccaccc ctctctgccc tgggagccct acactccact tgggagtctg
                                                                     7680
gatggacaca tgggccaggg gctctgaagc agcctcactc ttaacttcgt gttcacactc
                                                                     7740
catggaaacc ccagactggg acacaggcgg aagcctagga gagccgaatc agtgtttgtg
aagaggcagg actggccaga gtgacagaca tacggtgatc caggaggctc aaagagaagc
                                                                     7800
caagtcagct ttgttgtgat ttgatttttt ttaaaaaact cttgtacaaa actgatctaa
                                                                     7860
                                                                     7920
ttcttcactc ctgctccaag ggctgggctg tgggtgggat actgggattt tgggccactg
                                                                     7980
gattttccct aaatttgtcc cccctttact ctccctctat ttttctctcc ttagactccc
                                                                     8040
tcagacctgt aaccagcttt gtgtcttttt tccttttctc tcttttaaac catgcattat
                                                                     8056
aactttgaaa ccaaag
<210> 12713
<211> 2295
<212> DNA
<213> Homo sapiens
<400> 12713
gcgcaaattc gtggatcgct ccgctgaatc cgcccgcgcg tcgccgccgt cgtcgccgcc
                                                                       60
ccccgtcccg gccccctgg gttccctcag cccagccctg tccagcccgg ttcccgggag
                                                                      120
                                                                      180
gatgaagttc gtgtacaaag aagagcatcc gttcgagaag cgccgctctg agggcgagaa
                                                                      240
gatccgaaag aaatacccgg accgggtgcc ggtgaggaca gtagccaggg ccgagggcgc
                                                                      300
gggacgctta cgctgacgcc acagcctggc cttggatctg ggacaggcag cgcagggatc
aggctgctgg ctgtggtggg gttggcagcg agcctgaaac tgctgtcctt gggacccagg
                                                                      360
atgaaaggag tggggtagtg gtggatgtgg ggttgagagg gatgtggaca ggagagagaa
                                                                      420
accttagcat ttgaggcctt agagagtttg acagcctgag cttcaaatgg tcatccccc
                                                                      480
agctagctaa ggttgcgaga ttgaatcact agtcgaccca aacaagtcac ctccgtctaa
                                                                      540
gatagttgtt tatggtgacg ccctattggg ggatggatcc tggatattta aatgagctcc
                                                                      600
agtcagtgag gtcaggatct ctgggactca gtgctgcacc gcgtgtacaa agacaaagag
                                                                      660
atgaatctgg ggtagattta ggtgctagga atattgtttc ttgagttctt gacaggtgca
                                                                      720
gcttcggggc tgcattcctt ctgtctccta attttcatct ctttatcagg tgatagtaga
                                                                      780
aaaggctccc aaagctcgga taggagacct ggacaaaaag aaatacctgg tgccttctga
                                                                      840
                                                                      900
tctcacaggt gggaacctga tccaagactc aggcttgctt cctgtgggtg ggagtgcagt
ctctgcggga ggaggctcca cctagcagct gttcttttga gggcattttt gacctctgtg
                                                                      960
                                                                     1020
actttcttgc atcttgtatc ttttgcagtt ggtcagttct acttcttgat ccggaagcga
attcatctcc gagctgagga tgccttgttt ttctttgtca acaatgtcat tccacccacc
                                                                     1080
agtgccacaa tgggtcagct gtaccaggta tggtgactgg gaagtggtgg aggctttgga
                                                                     1140
gaggaatett ggaagagegt gaggggaaga aagtgttgtt acateagtag ttttggaeta
                                                                     1200
gcttcctggc ttgccttaaa gtttcataat agccgtgggt tgggggtttg gacagaacag
                                                                     1260
                                                                     1320
taggagtaga gagaaggaaa gagaacagtg agctagagaa actatctgtt cgggactctt
cccagtcccc ctccccattc caaagcagca gaaaacagtt tgaggccttt ttgcccagga
                                                                     1380
ctgcagagat tatactgctc gtgtggtagg ccttggagtc agtgaaggag tcaggcaatg
                                                                     1440
gtttgtggtt ctagaagaac gtgtctgggt cgtggttggt ttaagttact ggagcccagt
                                                                     1500
tgctgaacag ttttctgctt tcatcccagg aacaccatga agaagacttc tttctctaca
                                                                     1560
                                                                     1620
ttgcctacag tgacgaaagt gtctacggtc tgtgaagctg ctgcccctga gctggagggg
                                                                     1680
ggtctcattc tacaaagaga gaggtggccc ccctttcttg acctcctcct ccttcaagct
caaacaccac ctcccttatt caggaccggc acttcttaat gtttgtggct ttctctccag
                                                                     1740
                                                                     1800
cctctcttag gaggggtaat ggtggagttg gcatcttgta actctccttt ctcctttctt
                                                                     1860
cccctttctc tgcccgcctt tcccatcctg ctgtagactt cttgattgtc agtctgtgtc
acatccagtg attgttttgg tttctgttcc ctttctgact gcccaagggg ctcagaaccc
                                                                     1920
cagcaatccc ttcctttcac taccttcttt tttgggggta gttggaaggg actgaaattg
                                                                     1980
```

```
2040
tggggggaag gtaggaggca catcaataaa gaggaaacca ccaagctgaa ctgaattttg
ccttgtgttg ctccctcgt cccgctgatt ttaagtcttt ccaaggtgtc agtgggtttc
                                                                     2100
aqtqqtqqqq aaagaagat actgggtaca agctggaggg atagaagtat attttggttt
                                                                     2160
                                                                     2220
attctgttca tgttgggctt ttccctgtct gcaaaaagag ggtgcttttg ttgtgatgga
                                                                     2280
atggaatact gaggattatt tcttgaaact ttagttttat aacacgcatg tgaaactaaa
                                                                     2295
tgttaaaaat gctca
<210> 12714
<211> 286
<212> DNA
<213> Homo sapiens
<400> 12714
                                                                       60
gtcctttgga cggtaaaatg gcgcctgtca gagtgggaaa cccagctgca gaggctgcag
                                                                      120
ccccggtccc cagcggctaa aggacccccg agctcgggga gggggaggcc gctccggccc
agegetetge geceteegge tecceetece ecteetteee tgeteetteg etetgeagge
                                                                      180
                                                                      240
ccgttctccg ctgccgcgc cctttgcgcg ccgctgccc cgccctcccc gttcctgcga
                                                                      286
gcagcccct agcgcgcctg cgcagcgggc cactctctgc tttccc
<210> 12715
<211> 5888
<212> DNA
<213> Homo sapiens
<400> 12715
                                                                       60
gcatgtcagg gatgatccgt ctctacgctg ctatcatcca gctccggtgg ccatatggaa
accgacagga ggtaggtaaa agaggcttac tgtcaataat gagaggttag accacagtcc
                                                                      120
                                                                      180
atgtgtattc ctcccacagg aaatgttggc cttctttcag agagccagtc tagttaaagg
                                                                      240
ataaactata tggcagtttc atgggtatta tgtagaggac tgaatgttga ttattaggga
                                                                      300
actttcttgg atcacctggt actttaaaga gctggttttg taacagagtc taccagagga
gagtctgtta taaatcagtc attaaggtta gaagattttc ttacaagagg aatgagcaag
                                                                      360
aaattgtcat cttagaacta gttgagacct tagaagccat ctagatcaca taccttactt
                                                                      420
cacagatgga cagaacaagc tcagaaagct gcagctgggg ttcagggctt tgacttgcca
                                                                      480
gcccaattaa tttctcaggg aatacagatt agaaggacag agaaattaat agttacggag
                                                                      540
acctaaagag aaaaaataga agttgattaa atccaagttt ttattgtatg cctgctgtgt
                                                                      600
cccaggttct gtgctaaagg taccaagaat aataaataaa atgtcaataa ggctaattgt
                                                                      660
                                                                      720
taccctatgg aatgcctgaa actgaagctg acacatgcat attgaaggga gcctataaag
aatgtgtggg aaccaatgta ttgaaacatt aaaaaataga aggcgaggta gcttcaggcc
                                                                      780
tgatatccca gcactttggg aggctgaggt gggtggatca cctaaggtca ggagttcaag
                                                                      840
                                                                      900
accagectgg ccaacatggt gaaaccccgt etetactaaa aatacaaaaa ttagetggge
                                                                      960
atggtggtgg gcacctgtaa ttccagctac ttgggaggct gaggcacgag aatcgcttta
                                                                     1020
acccaggagg cagaggtggc aatgagccga gatcacgcca ttgcactcca gcctgggcaa
caagagcaaa actctccctc aaaaaaaaaa aaaaaaaaa aaaaagaatg tgtgggaacc
                                                                     1080
aatgtactga aacatttaaa tacagaaggc tgggcgaggt agattcatgc ctgtaatccc
                                                                     1140
agccctttag gaagccgaga caggtgggtc atttgactcc aggagtttga gaccagcctg
                                                                     1200
ggcaacaagg tgaaaccatg tctctaaata aaatacaaaa aaattagctg agcacggtgg
                                                                     1260
catgtgcatg cctgtagtcc cagctacttg ggagactgaa gtggaagaat cacttgagcc
                                                                     1320
caggaggtga aggctgcagt gatccatgat cgcactatag cactccaacc tggacaacaa
                                                                     1380
                                                                     1440
agtgagaccc tgtctcaaaa aaataaaaga aaaacagaat ttgtttagtt tgtgttattt
ctgccctgtg gcaggtgcta gggctggatg atctggggtt catttccact tggtaatggc
                                                                     1500
                                                                     1560
tggatgatac actgggagtt tagatttcta aacaaaatga gatcaatgat aaccaagctt
                                                                     1620
ctctactccc agattcaccc tcatggctta aatcatggat ggcgctggtt ggcacagatc
                                                                     1680
ttaaacatgg agcccttgtc agatgtgaca gccaccctcc tctttgactt cctggaggta
                                                                     1740
cqtaactcag ttatcacaca agagaaggcc agtggttgag gtagccttga tccactgggt
gacatgaatg gggaaacagc atagcatttg ggcctgatag taaaacagca tgaggttcca
                                                                     1800
                                                                     1860
gtgtcataca tttttcccaa gctgtagacc aaccttgctt tcacttttac tccatactat
                                                                     1920
atttacttgg cttctctgga tttttttcat tataaagaac agaaaattgt acattctagc
aaaagtgaaa agaggaattt gttttaggga tatagaaggg actcccaggc cgggtgcggt
                                                                     1980
                                                                     2040
ggatcacacc tgtaatccca gcactttggg aggccaaggt gggcggatga catggggtca
```

ggagttcgag cccagctggt cagtatattg aaaccctgtc tgtactaaaa atacaaataa 2100 aggccgggca cggtggctca cgcctgtaat cccagcactt tgggaggccg aggtggttgg 2160 2220 attacctgaa gtcatgagtt caagacgagc ctgtccaaca tggtgaaacc ccgtctctac taaaaataaa aaatcagccg ggtgtgatgg tgcacacctg tcatcccagc taccgaggag 2280 gctgaggcag gagaatcgct tgaacaggat ctcactctgt cagccaggct ggagtgcatt 2340 agtgtgatca tagctcactg tagcctcaaa ctcttgggct caagcgatcc taccacctaa 2400 ccctggcaaa gtgttgagat tacaggagtg agccattgca ctcagccaag aagacacttc 2460 2520 ttatagaaga aagccttggg gtacatgcca taacaaatct ggaaccattt gatctatagt 2580 gccaatagtt cctagttacc ttaatagctc ctgacgtcag ccaggtgcag tggctgacag cctttgggag gccaaggcag gcggatcact tgagctctgg agttcaagac cagccagggc 2640 2700 aatatqqtqa aaccctatat ctaccaaaaa aatacaaaaa ttagtggtgt gtgcctgtgg 2760 tcccagttac tgaggaggct gaggttggag gatcacctga gcccagggag gttgaggcta 2820 cagtgagctg tgatcatgcc agtgtcctct agcctgggcg acagagtgag accctatttc 2880 aaaaaaaaat aaaaagctcc tgaagtcacc atacatgaac aatgatcctg tatcatttga 2940 gaacacaagt ggtattctgt atactctcct tactaagttt gggaggtata ccataccttt 3000 aggaaggcgt ccattcatta gaggaaaaga agagtagttc attaagacct gattggttaa atggagatat tgccatataa agagaaatgc tttagaagaa agttgggtgt ttccatttat 3060 3120 tcccttgtta gcaagttcag tggcattgtg gttgaaattt ttgataggtg tgaaagatga agggctgatt gtgctttatg aatctgtcct gtgagtgtga attttcattt tctgctctga 3180 cagtgcctgt ctttccctct aggtgtgtgg gaatgccctc atgaagcaat accaggttca 3240 gttctggaag atgctaattc tcatcaaaga ggactacttt cccaggtatc aggcttgttg 3300 3360 agcagacagc aggggattaa gtaactcata accaggcctc agatacccaa gggtgctatt acctgctggt tttgattcaa gttaaaaaca cctgtactaa gtatgacatc tttcctactc 3420 cagtccctct cgttgatatt tgaataaatg cttttgaacc ttaatgagag tctgtcttaa 3480 3540 atatcattgc ccaaacaaaa acacaaatta ggggctgagc acagtggctt atgcctataa 3600 ttatgcctat aattgcagct ctttgggagg ccacaggagg aggatcactt gagcccaggt gttcaaaacc agcctgggca atatagcaag accccatctc tacaaaaaaa aaattagcca 3660 ggcatgatgg catgcatcta tagtcccagc tactagggaa gctgagacag gaggatcgct 3720 3780 tgagcccaag agttcaaggc ctcggtgagc tatgatcgca ccaccgcgct gcactccagc ctaggtgaca gagtgagaca ccgtttccaa aagataggtg tatatcatag gtgtgattca 3840 tgtgtctttc tctccctgta gaattgaagc tatcacaagc tcaggacaga tgggctcctt 3900 catacgcctc aagcagttct tggaggtaag atgcccttag accaacatgc cccacactgt 3960 4020 tgttgggctg gaatgcacct atgtctgaca agtcttggac cttccgatgc tctgattgca ctcttcct tagttcttcc aaacccttct ttttgttcct aattccctct taacctttgg 4080 agtaagggct gccatttcct cttctttata tgtatcattc tctatactgc ctgtgagaaa 4140 gctatgctga gatgagtaaa atatatttag tgtatctcct ctcattaata tatattttt 4200 4260 ttgcatgttg gccaaggtta ttttcttagt ctcaggtctg gggaattggt aagtgtcatc acttttctcc atgagatcaa actgcacttt cagttggact cttcccctac ttccaagtgc 4320 caagagattg taaaaggtta attttgacaa agaatttaga acactatagt gggtttgcca 4380 agatagcctg ctgacttttc agcttctcaa agctcgattg tgaaaatagt gattgtgaaa 4440 gatgaggtta gcctgtaggg agacaagagt gggacaggaa taataagagc atttcatttg 4500 ttgtctggag cagatcatgc agaagtggac atcttataca gaaccatcag tcttactggc 4560 tttttccttt ttgttcactg ttccataggg ctgaaatatg gtgttcctca aagcttcttt 4620 taaccattaa gtgttgggaa cactgttatc agaaactcat tctgttttct tcatctttcc 4680 ctgaccagaa atgtttgcaa cacaaggaca ttcctgtccc caagggcttt ctgacttcct 4740 ccttctggcg ctcctgatgt cactccatca cccaccatca ccgctgctgc aaagaggcaa 4800 taataaagga actgaagaca gctgtatttg ggagaagtca tgtcagattc agaaatttgc 4860 cattatgtat ttttatgtat ttatgccttg tgactaggag aggagatttt catgggtcac 4920 aaaattcttg gaggtccctt agtagatttg gtagttcctt aagagatcca cgtgataaaa 4980 taaatggagt tggcctttct tgttttttgc aaaagtgata aaaggtcttt agcacttggt 5040 ctcctccctt gtctctagtg tctttcagaa agttggcaat accttaacaa atgcactctg 5100 agctggaggg agcccaccat ttgcacccac ctacccaccc tcacccctgt tcagatgaat 5160 ttccagaaag agctaaggct cataaggttc ccttttaagt attatttaat agttgaggcc 5220 agatacttac atgcaagtct gggttatggt tgttttgcct ttctcagctt gtgaagtcat 5280 5340 tctaaagcta gaggaagtat gtgatataca catggactaa ggctcaggtg acactatggc 5400 tagattaaca tetgggatta ggaetggaaa cacatgteat tttgaactaa gggaaactet ttgtcatcct aatttggaat ttggtccctg gatggctagg gatccatgaa ccaggcaggt 5460 5520 accttttttg tttttgtttt gttttgtttc ttttctgttt gaattaagat gggctaagat 5580 ggggcttgca acattaaaca tgagctgagc atccataagc attgaattgg gattaaataa agatgttggg caggaactga acactgctaa tatgatgata aatatgcctg actaaagcca 5640 5700

```
atactgcaga ggcagtggcc atggatctgt tcctctgtgc taaatgtctt gtggcagggt
                                                                     5760
gtgtttgtgg gggagtgttc actggtactc ttgagtggcc tgaagtgacc cattctatga
                                                                     5820
attgttaatt aaggtgccaa aaaaaattaa taataaagct tggttttttg aaaaacccat
                                                                     5880
                                                                     5888
tgctgata
<210> 12716
<211> 344
<212> DNA
<213> Homo sapiens
<400> 12716
                                                                       60
tcaaaaaaaa aaaaaatttt tttttaaatt tttcaggcat ggtggcacat gtctgtagtc
                                                                      120
ccaqctactc aggaggctaa ggtgggcaga tcacttgagc ttgggaggtc gaggctgcag
                                                                      180
cgagctgtga tcatgccact gcactccagc ctgggtgaca gagcaagacc ctgtctcaaa
                                                                      240
aaaataaata aataaataag gtagacacaa tggaatgaac actggggacg gagtcaggag
                                                                      300
accccggctc aaatcacttt taggtttttt ggccttggga aggtccttca cccgctctga
                                                                      344
acctcagtat ccccacctgt aaaacaaaag aactggacat gtca
<210> 12717
<211> 16083
<212> DNA
<213> Homo sapiens
<400> 12717
                                                                       60
taattccaga gataaagtgt ccacaacagt tagggaaatg atgctagagt aagtaaaaac
aaaggtaata atttatagcc tttaaataaa atcactggga agggcaaaca tttcttactg
                                                                      120
tgcccatcac ctctaaaact tatgctaaag gttaatgaaa atgtatttgt gactgaagtt
                                                                      180
tggtatccat ccctttttt ccccaaggca ctttaaaaaat cagcaggaca accctgaggc
                                                                      240
aaactggaag gtaaaatata cttttatttt acatcttatt ttctgttgat ttagttgttt
                                                                      300
tcactttcta ctgagtcagt ttaatgccga cctataacta ctttgtcatc aagactcttg
                                                                      360
                                                                      420
ggtattcccc tggaaaataa ggcttcaaac ataaaaattg gaatacttac tttcgaagtt
                                                                      480
agtaagggca ccctttctga actttattaa gaaaaaataa aactcataat ttgattatat
tatggctgtt tgtggactgg ttaacattat aaacaattct ttaatatggt gtgcatttct
                                                                      540
agcttcaaga ttattaagtg acttgactgt ggttctttct ctatttaaag ttgcctgaag
                                                                      600
attttgctgt ggtgtttgga gaagcagagg gtgaacttgc tgttggagga gtcttcttga
                                                                      660
                                                                      720
ggatctttat tgcacaacca gcctgggttc taagaaagcc tagagaattt cttattgccc
tgttagaaaa attaactgag ctcctagaga agaacaatcc tcatgtaagc ttcagtcaaa
                                                                      780
                                                                      840
agcaaaacat ttcaaagact tggctaacta gactgatggt gtttctctta caaccttatt
cacaaagacc atgaattagg aattggccag ctctttcaat atagcagcca catttaaatt
                                                                      900
cacatatgcc cctcgatcat ttttttgcca tgttcaaaag tgaagctctt tagtatgttt
                                                                      960
atgaaccaaa gttatagaga tatctatatt gagaggatgc tatttctaac agttacagaa
                                                                     1020
gcctgaaaag aaggttttta ctgtccatct ctaatgaata tgtaatttta aggagaaacc
                                                                     1080
                                                                     1140
tgtgtgttcg gtgttcctct gagagtgtgt tctgtttggg catgtgctgc actctacttt
gtgtatatgg cagggataac cctagtcaaa gaaattgaca gaagagtagt aactatgtgg
                                                                     1200
ttgaatcctg tatctgtggc tgaggctgcc aggaaagcag gagtgagtga aaaggtaact
                                                                     1260
ttggtcttgg gtttggcaag ccaaataccg tgatagtata taagattttg tttttcaaag
                                                                     1320
tcttttttgt tttcagaagg tttaagattt tgttgagatt gaagacagtt gacctacatg
                                                                     1380
attgttgttt aaacaggctg gctacagaat aaggtgatta agagcctgag tggtgttatt
                                                                     1440
tgatggttcc agccatacca ctgaccaggt ctgtgacctt gggcagtacc tcatgactct
                                                                      1500
gcctcagttg ctgcatttat agaatagtca tagcagctgc ctctgaggca gaggttctga
                                                                      1560
tgagttaata catatataga atgcttaaca taatgtctgg cacatttcaa gtgcttagaa
                                                                      1620
attagttact atcattagct tagtaaaaca tatttttaaa acatgattag cttgctgagt
                                                                      1680
                                                                      1740
atttaccagt gctactttcc atagtcatat tcctccaata ggatttctac tacatacata
                                                                      1800
gtttgcttgg aaaatgcagt cctcaaaagc taaaacttag ggaaagcaca tagcagtttc
ctcctatatc acctttcttt ttggacacat tccaatttta atgttaattt aagatgcatt
                                                                      1860
                                                                      1920
ttattatgtt tctggatgtg tgcatctagt ggtataagct gaaggtcttt ccaatccgtt
                                                                      1980
atccacaata gaaagtgctt tgtgggagcc agacatgtta aatagtagga tttttaatga
aactgggaaa aacatttcac tagttctgca ttcttctgga ttattgttct gacactaaca
                                                                      2040
tacctgcaac atggtctaaa aatttctagt aatatcattt gggacatgat ctcttaaacc
                                                                      2100
```

tgcaatagag gctgggcgcg gtggctcacg cctgtaatac cagcactttg ggaggccaag 2160 2220 gcgggcggat cacctgaggt caggagttcg agaccagcct caacatggag aaaccccgtc 2280 tctactaaaa aaaatacaaa attagccagg cgtggtggtg catgcctgta atcccagcta 2340 cttgggaggc tgaggcagga gaattgcttg aacctgggag gcagaggttg tggtgagccg 2400 agategegee attgeactee ageetgggea acaagagega aacteegtet caaaaaaaac 2460 ctgcaataga aattgggtat acctaaccga gtaaaatcct gcttagatta aaatagcata 2520 ttcttaaagt cctttagatt catgcctttt atgaaagaaa atgggaagtt cgttgttctc 2580 ttaggattag tgaatctgtt ttcaagtatc agcacttaga acttttgaat ccctagtttt 2640 gaacaccaaa tacattacct tggatattta gggctgtatg agtattttat agttgattta 2700 tttttgtttt acacctgcag ggagaaactc tggaaacctt gacaatggca acagtgtgtc tcttcagcgc acaacctcag ctggcagatc aggtcccgcc attgggccat cttcccaaag 2760 2820 ttatccaggc aatgaatcat aggaacaatg ccattcctaa gagtgccatt cgggttatcc atgccttgtc tgaaaatgag gtattgatga atacacttag tagtttataa gctccagaat 2880 ttatctatgc tcccttcttg acggatataa gttgtagtat tatataaatc ccctttctgc 2940 catgtgtctt tttgcatacg aaccacatgg tattttatta gttctgggtt tatcaaaact 3000 ggtatttatc aaatcagttt tgataaatac cagtttaggt gatataatta atagattaaa 3060 tttggttcaa ttcattgtta aactgaaagt aagggattct ttttttactt atttacttat 3120 tttgttatgg tatttactat gttatataaa tattgccagt ctacaagtaa ccttctcttt 3180 3240 tgggcactta gctgtgttt cgagccatgg catctttaga gaccattggc ccactgatga atggaatgaa aaagcgagca gatactgttg gtctagcctg tgaagcaatt aatcgaatgt 3300 ttcagaagga gcagagtgaa ttagtagcac aagtaagtga ctttctagat ttagcactat 3360 tttaggaaag caaacatacc aagtagattt ttacctattt ggtactgatt tggtttcctt 3420 gacttaaggt tggtgagagt taacttgtga gtttgtgtat aaacaatttt atattttata 3480 3540 tatacaaaca catacagtag tgtgtataat acgtgtgtat atgtgtatgt atatatacat 3600 ggatgtttgt gtatatatac acacacacaa aaatggggcc agctgccaac agtcttacca 3660 acttgagagt acttttatgg tgtataaaaat ttacattttg gctatccatt gtgcaattag 3720 cttagtagct tgtttagctt gatttgtaaa atgtgcttca tcctctttgg aaaaattcat 3780 tcgtttattt attcctttgt ttcttaagtc atgtttaaga aacatgccaa gatactgcct 3840 ttttcaaaga gactatccac ctaatgaaaa ctggacttgg tggatatcca tgtagacaga 3900 tgttgatgga acaaaaaga tgcaataaat ttaaaaactt acaaaagcga tctttctaaa 3960 atgtaactca aagaacaaat accacatgat ctgacttgta agtggagtct aaaacaatca 4020 aacttatgaa gcagagagta gaatagtgat tactagaggc tggggttggg gagaatggga aaatgctggt caaaaagtac agtttctgtt aggaagaata aggcttttaa gatctattgt 4080 4140 gcattatgtt gactatagct aataatacat tgtatatttc aaaattggta agagtaaatt 4200 ttaaatgttt ccacaaaaaa ataagtattt gtaatggtag atatgctaat tagcttgatt tattctgcat tgtatgcatg tgtcataaca tcactttatt tcccataaat acatacaata 4260 4320 aaaaataata aagtatttaa atagaattct gaaatataac tgagccattc ttcatcttaa 4380 aaaccattca gtggtttctc attacctgcc agatgactaa gtgacatctg gtatccttag ccagaataca aggccctgca tetttattat ctgggettee cetteteeca gecceteage 4440 4500 cttacccact ggaccctcat tgaggcaagt agagctgttg ggtacatctc aaggagatac 4560 tggatgctct aaggttcaga cttatgattg gcttgaggag tttgatgtgt aggaaagaac 4620 atgagctggt actaccactt gttggctctc tgacctcaga catgatattt aaccttaaaa 4680 tgctcagatt tctcatctgt aaaataaggt tgtgactatc tcacaaggtt gttatgagaa cagtacctga aaaaagaggt gcattcacta aatgtctttt atttcttcct attccctctg 4740 4800 agtttcaaaa tggatagtga aaattgtgac attagattat tattcagctt ttattaggct 4860 gatatgaaat gtacgatgac cacaaagatt gatgtttgaa gaaaatatga aaaaatacta 4920 atgtatttca gagattgttg cctattaata cagtgttact agggcaggca gcccagtata 4980 ggggctaaaa gctcaggttc tatgttttct ggctccagat acatatttta atactgccca gctctgtgat tatgaacata ctgttttacc ctctgtgcat taattgaata aaataattga 5040 tgtatagcat ttagaatggt taatggacag aataaaatct cattaaataa aaatgtcatt 5100 agatacttaa gcctgtgtat ggcattaaaa tacggtgcaa caggctgcct tccaggtagg 5160 tcctgggggt aaaattattt cttcagtgga tgatttgcat tttttctgtg tgtttatata 5220 tgcttaatat ttcttctagg ccctgaaagc agatttggtt ccatacctct taaaattact 5280 5340 cgaaggcatt ggccttgaaa acctggacag cccagcagcc actaaggctc agattgttaa 5400 agctctcaag gcaatgactc gaagtttgca gtatggagaa caggtgagtc tgcatagagt caacttttga tattctaaaa gccagggtct tggccatgga tggtccacgt acctgtgttc 5460 5520 aagttccact tacagatatg gttctgttgg ttgtaactgg agaagatcca gagcccaagg atggacttgc atacctgcct cataactgat gaaaaagcat aaaccatata ctcaatattc 5580 aggagaattc ttctggatag tgatggcatg ttgtacattt caggaagaaa aatgctggaa 5640 5700 atctttagca tggaatatgc agcatttagt gctgcttaag attaactttc agctctagga gttattcatg ggtagtgata accaaattca ttaaccatcc cataatgcta ttttaaaaga 5760

tgtagaacat catttttgtt ttcatttcct ttcttgctgg tgcttaaaaa gtgttggttt 5820 5880 tttttttttt ttggtcgtga ctttgttttt cctatgtgtg ttaatgtatt tcagctgcac 5940 gtatttgctg acttcaggcc tgttcagtaa tttaattttc ctcattggtt ttattttat 6000 tatttcctct aaggagttcc tcattcagtg tactatatag ccccatctac taatgctcat 6060 ttttttttaa ttgacgtgaa atttacatag cataaaatta accattttat ggtgaatagt 6120 taagtggcat ttaggacatt aacagtgttg tacaaacacc accgtatcta gttccaaaac 6180 attttcatca cctctgtacc cattcagcag ctactctccc tttcttcctt cccccaacct ttggcaccca ccaatctgtt ttctgtctct ggatttacct cttctgcgta tttcatataa 6240 6300 atataatcat acatatgtga ccctttgtgt ctatcttgtc atttagcatg tttttaagca tcatccatgt taccaatgct tcatttttat gtctaaatat gtcattgtac gtaaatgctc 6360 caatttgttt atccattcat ctattgatgg acatttgggt tatttcccct actaatgttc 6420 cataggtttt aattgacttc agctacagct tcccggtaat gaatttactg gatttgtatg 6480 6540 tttcaagtaa agaaacattt ttcataccat tgtcattcta tcaatatgat catttaaatg atttaaaatg atattaggct gggcgcggtg gctcacgcct gtaatcccag cactttggga 6600 ggccgaggcg ggtggatcac gaggtcagga gatcaagacc atcttggcta acacggtgaa 6660 accccgtctc tactaaaaat acaaaaaatt agccaggcgt ggtggcaggc gcctgtagtc 6720 ccatctactc gggaggctga ggcaggagaa tggcgggaac ccaggaggcg gagcttgcag 6780 taagccgaga tagcgccact gcagtccagc ctgggtgaaa gagcgagact ctgtctcaaa 6840 6900 aaaaaaaaa aaaagagata ttaaagaaga gaggcagcac ttctgcagat attaaagaag 6960 agactgcagt attgctgcag tcattaactg atgtgttttt agaagtattt tcttggtttt 7020 tgcctatgag tgttctaaat gccaagcaaa ggctctcctg cgtaccactt gcagcagttg tcttgtcttt gacttgcctc aggattcctg gtaatgaaat tagcaaagta atcctgacac 7080 7140 ccacttccta cacccaaggg aggggaggaa agaggtatag tagtttctaa ataggaactc 7200 ccctaccagc tttacaacta atcacttcca ctactgcttc tttcccgggt tggagcaggt 7260 gccccctcc cttggactca catggtcccc ttgtataacc ctactttaat tcttaccaca 7320 aaattatttg acgctgtctt ccctactaga ttgtaagcac ttcagagaca gtctgtcttt 7380 ctcatctttg tgttcactgt gcctaccaca taagaggtgc tcagtaaata ctagatatga 7440 acattgatgt gcaaaagcta ttcactaagg tggtatttcc taaatgtttt gtcacacaga 7500 aatgtctttc atcttagttt agtgcatatt cccacacatg tattatttat actcatatat 7560 gtgtatgtat ttcaagtata tacaagtcct cattttactt ctgatactct gatgctttct 7620 atattgacca attttgtttt ttcaacaaca ctcctgattg tttcataaac ctctttaggt cacageteat aatttgaaac actgetttaa gttttagete aatttggetg tacettetee 7680 ccaaactcct tcctcaggaa tagctcatca gcccatacac tgtcagccat ctgttactgt 7740 cacaagaaaa tactctgcat aggtatcttc ctccttgaat tacatataag tcggtaattg 7800 taggttcaaa taatagagtc cagcttcaga gggacgactg acttgaggac ttctttgggt 7860 7920 ctgccttaat gagatgtgtc tggcatagtg cctgctatgg agtgtttgat gaatgctagt 7980 tcttgctcca tatttgggtc tttcctcact ggccttcttc cttgttgctt tggaagttgg ttttttttt tgtcttccaa catccagtcc ttgattttat gttcaaaggg cttgttttac 8040 8100 tttcctaggt gaatgaaatc ctgtgccgtt cttcagtctg gagtgccttc aaagatcaga 8160 aacatgattt gttcatttct gagtcacaaa cagcaggata cctcacaggt aagccatacc 8220 taattggtta ttgtaagaca cctggcagaa gccacttgga ccttcctttt gccctaaata 8280 gacttaaaat tgtgttcaga gtgtttctta ggctaccagc tgacctttct tggaggtgct atgagcatgt agtagacata tggtcttagc tttatatagc atgcaaactg ttgttgtgtt 8340 gaatgggtac tgactaaagc atgtattttg ttcagttttg atccagttaa ttgggtcata 8400 gaatatattt ggagcatgtc tgtattaaag tatttatctt gtaaagagaa ggaataaata 8460 tctgctgagg aatatcagtg tcagaaacat gattcatcat tccatatctg tcagaataac 8520 agattaaaac tccaaatatg tataattgta tgtaaaagat attcttggct gggcgcggtg 8580 gctcacgcct ataatcccag cactttggga agctgaggcg ggtgaatcac gaggtcagga 8640 gatcgagacc atcctgtcta acacagtgaa accccatctc tactaaaaat acaaaaaatt 8700 8760 agccaggcgt ggtggcgggc acctgtagtc ccatctactc gggaggctga ggcaggagaa 8820 tggtgggaac ccgggaggca gagcatgcag tgagccaaga ttgcgccact gcactccagc 8880 8940 agtgatttgt ttatggtttt gctaaatatt tagggtgtgt cgttttatgg gggtggaata 9000 cataggtatc atgaatgaaa ggatgtttta ctgctttggt ttcaaaagat actatgttta aaactcagaa catttgacac actaattgca taattttaga atagtcattt tcatataggc 9060 ttcaacataa gtcagactct tgctgaatgc taaagaggca atatctagtc tgctataaaa 9120 9180 gttcttaatt tgaaattaac cttaggaata tgaggcggtt cttgctgtct gcctgaaatt 9240 gtagtatata aaaagatgtc agccctgcat tctctcctaa ccaaagatga taaactaaga gaaaaaatta tcacccaggg tttctaagcc attgtaattg ttttaatctt gattgctagt 9300 atagaagttt ataagatcat gaagacttta tcttgaatat tcaaaattag aggctttgga 9360 ggaaatttta cctggtttta attttaaact tggtgtgaca ctttttttc ttcaccataa 9420 ccactttaat attgacactc ctaaagttgg agcagagtcc taaaatttat aaacatgcag 9480 9540 tgctttggct gcaggtcatg tcctgttcag aacagtgtca taggttttta ttttaacttt 9600 tccatcccct gtccctcata tctatggaga aaaataccta gactgtgttc tcagtctgtc 9660 ccatatctct cttcagattt ggtgttaaaa ttatagcttc taagtaggag tttgttctta 9720 taggcagtat aaaaacttta cctctttagc ctatgtccaa aagttcacat accacgtttt 9780 catggcatta cattcattac tttttgtata aggatggtat gattgaaaaa aaaatctgcc 9840 ttatttttat tttattattt atttttttga gacagtcttg ctctctcacc caggctggag tgcagtggtg cgacctcagc tcactgcaac ctctgctccc tggattcaag tgattctcct 9900 gcctcagctt cccaagtagc tggcattata ggcttgcacc accacaccca gctaattttt 9960 gtaattatta ttattattat tattatttta gtagagacgg aattttgcca tgttagctat 10020 gctggtctca aactcctgac ctcaggtgat ccacccacct cggcctccca aagtgctggg 10080 10140 attacaggcg tgagacacca cacctggctt ttttttttt ttttgcgacg gagtctggct 10200 ctgtcaccca ggctggagtg caatggtgca atcttggctc actgcaacct ctgcctccca 10260 ggttcaagcc attctcctgc ctcagcttcc caagtacttg ggatgatagg catgtaccac catgcccagc taatttttgt atttttagta gaggctggtc tcaaactcct gacttcaggt gatctgccca cttcggcttc ccaaagcatt gggattacag gcgtgagcca gcatgcccgc cctctttttt tttttttt ttttgagaca gagtcttggt ctgttgccca ggctggagta ctacagcatg agctcagctc accgcaacct ttgcctcccg ggttcaaacg attctcctgc 10500 cttagcctca caagtagctg agattacagg tgtgcaccac cattcccagc taatttttgt 10560 atttttagta gagacggggt tttgctgtgt tggccaggct ggtctcggac tcctgacctc 10680 aaatgatcca cccgcctcaa atgatccacc cgcctggtac tcccaaagtc ctgggattac 10740 aggtgtgagc cactgcacct ggtcagcctt atttttctta actaagagta aattggccct 10800 gaagaatagt aatgtgtata ttataagctt ctctacagga aagcctcttc taattcttct 10860 gttcagtctt atctatcatt ctttgactta acttgatgaa ataaaaaaca tatgtccttg 10920 acttacagag tgtgaaccaa aaggtctgtg gttagaatcc agaagaaata ggggtttatc 10980 ttcagaaacc tggacttcat ttggtcctca cccccatcca catgctttag taactatagg gaaaaggtat aggcagtaaa aagcttcttg tctgtgcctt tccttttact tggatccatg 11040 cggtggcttc tgaatgagat atgaaaagtg gctgtgaagg ggttagaaga aggttaggga 11100 11160 aaaagaaaag ttggggtata caaatttctt cccatccctg agccggctta agggacagca agttctgtac aggtctggcc aaatggggag atggtataaa acccaaccag gaaggggcat 11220 11280 ggagataatg agtcttccag aaggccatta ctgaagcctg cagacgtgtc catgtagaac agtctggata agctgtaagc attgttgacc ccagaattgt gaaattctga gcatgttatc 11340 aatctgggat gctcttttt agcgatgtca gttgctggaa atttttcat cagctctagt 11400 ctgtcctatt tgaaaggacc aacttgccag gtgcaatggc tcatgtctgt aatcccagca 11460 attttggagg ccaaggtggg cggactgctt gagtccagga gttccagacc agcgtgggca 11520 acacggcaag accccgtctc tataaaaaaa tacaaaaatt tagccaggca tgttggtgca 11580 tgcctgtagt cccacctact cgggaggctc tcttgagcct aggaggtgga ggtcacaggt 11700 gagctgagct ctcaccacca cactccagcc tgggcaatag agcaagacct tgtctcaaaa aaaattaagt tacattaaaa atgaaagaac tatttcaaga attaaagctt ctaactcttg 11760 11820 ctgtctgcct gaaattgtag tatataagat gtcagcccta catcctctaa ctacagatga 11880 tgtaggcaaa ttaagagata aattaggtaa atttactgcc agttggattg atgtgtgctc 11940 attgcttgag ttgccaaatg ttttttgtgt ttgagctttt cattgatgta ttgtgtatca tgtgtttgat aaaaggggca tgtagttcta ataatgataa aatcccatga tgtggaactc 12000 caggaattta tagtgttgtg ttgaattgga atttcattta gttaaaatgt gccccgtgct 12060 acteceaaac tteagaagat acagattgta eccageeeet etgtaateat tgaaateaag 12120 gttgctgtga caacacacat caccaaccct ttcttctaac tgatatcttt aggtgagttt 12180 ggcaggttag gtggattttg tttaggacat ggggaaagac aaaggagtta attactactt 12240 caaagtaaga taaaaatgac caaaactacg ttttcttctc tctggctgct gagtaaatgt 12300 cattcagtca catgcccaag atttggggta aaaattttaa agtcctaggt aggattactc 12360 aatcttgata aatttaaatg agactgccta tttccatagg ttctctagcc tggcatattt 12420 tgttttatga taaatgctta tttaaaggtg cctcagtgga atttttcctg tgatgcagat 12480 aaattgtggt tactcattat ccagggccct tgatcactta gccatttatt aggttctaga 12540 acagcttggt gctgatggtc tcagagcctc ataaaaaata atttcagcag tgaaaatcct 12600 caaattacct aacctagaaa atcagtagca aaagaaggaa caacaggaaa aggaacagag 12660 gccagggtga agatgcttct aggagccaga attggagatg aacttttcac atatacattt 12720 catcgtggta gccaattcag ttttgtggga ttctctgtaa attttccatc ttttctcatt 12780 tctctgaagt ccagcagcct tgtgcaatct tgccacatgc ccattcctgg cagcccctgc 12840 tcttcccatc tttctctgaa gaacacaact gccctattct gtgcaaatga ccaggcagca 12900 12960 ccttttagcc ccaagaaacc agacacatcc tcaaggagag gccagggtcc tggggagagc atctcggatt tcatttgtag aactatccgg gaattgattt tgatttgcct ttcctaaaga 13020 ggcaaatgat ggtactaaaa tttggtttct tccttctaag cccatcattt caccatttag 13080

```
attttagctc agaggttccc acattttctc agttcacagt gcccttaata gctcagtaat
tttttcatcc gtccccaagc caaaagaaat acctaataat ttagtttatg aagtaattgc
aagacaactt gaaagtagtt gtttgtatgg tggtcagcag atggcgctgt gtttcaaatt
taaaataccc agcagttagc tggatgatgt ggcaggcaac tgtagtccac atggacaggc 13320
cgaatccgct actcagtagg ctggggtggg aagatcactt gagcctagga gttcaaggcc 13380
tggatagggg agttgcttga gcccaggagt tcaaggcaac atagtgagac ccccatctgt
taaatacaca cacacacaga ggggcaaagg gaataaataa atatccagca atgccccagg 13500
gtgcctcagc acacagtttg agaactgcgt cattaatcca ctttctagat gcagcattca
tggtttggtc ttgtaaccta ctattttgat gggaaccaag ttgagcccac aatcagaatt
                                                                   13620
gctcagaaac tacacagtct ggagtgtttg aggtcttact gttaagggtt acatctttga
tgacacctac tggatggttt tgcagtaatc atgctgcagc ctaaagttca gagaatatga
gggtggtggg aaatgatcac agggtgctgc tgtagctctg aactgcgttg tcagaagggt
ttgttgacct ggtggccttt ttcctgagca gactgtgaaa ggcctggcat cctgattggc
tcaaggcagg agttgataga tgcaggctcc cacagtacct taaaaaggag aaatattttt
tgtaagttct acaagtacaa ggtttttata agtacagcgt tccaagtacc tgggcactct
ggttggcttc agttacagct cacacaggct gagtcatctc tgcctatgta tctatacaag
                                                                   14100
ccatttcaca tccatagtac caatactttt aaggtcaaaa acaagatgaa tctgaatggt
ggcctttttg tcctccacca atccctgttt ctaccttcat caaactactc tgctgtttgc
                                                                   14160
actteeteac aactteeett getgettata tttetttttt ceeeteaggt gteteteett
                                                                   14220
                                                                   14280
cccttctaac tggcagcagc ccccttcacc tcaggagcgg gctttagatc cgctctgcca
ggcagcttgc taacttctgt gtagctctct gaagcaggta gagaaatgtt ttgctaaatg
                                                                   14340
catgccgctc ccactgcctt tctagtccta accctcaatg ttccttagtt gtttgccttg
                                                                   14400
tttcctacaa tttcagctaa aactattgct cagtatgcag tattatgcta cagtgtccct
                                                                   14520
tgcaagtact tgttagtttg tgcagtgctt ctgagatgta attaaatgtt tatgcaatgt
ttaaaataaa ctctagaggg ctaaagccat taatatgccc ataggacaca tctcgataaa
                                                                   14580
tgctggcata tatggcattt tcatgcaata gaaactgtta gaatcaaggg agaaatataa
                                                                   14640
                                                                   14700
gactaaaata tcagtaccct ttcacatagc attcttgttt taacctatga cagatggatg
tccagagcct tttcttttc agagtccttg gtttagcaac ccttgttcgt ttggtgttac
                                                                   14760
ttgttataat agcatttctt tgcaccaaat gaaaataggt tagtttgagt gttgacagaa
                                                                   14820
gtgtttatgt tgaattttgt cacatatgac ttttggatga gctgagtgta gagtttcttt
                                                                   14880
tgtctgtctg tttccatttt ttccattcga catagttctt ttcagtgctc ggaatttttt
                                                                   14940
gaaagattga atttcccaaa tgtaagaaag aaaattttat ccatatttcc acaccagtgt
                                                                   15000
tactgtccag catacatttt gaaatgattt ctagtctata gtgtaggcaa acatgaaaat
                                                                   15060
                                                                   15120
agtactatgt agctgtttat taaggtatag atgtaattta ggtaattgaa atagatgatt
agttttgtgt gatggagtgc ctgagcaggt tctgacattt ttataaaggt caatgttttc
                                                                   15180
acttgactgc tttctagagg tgtgtgttta cctttctctc ttgcaggacc tggagttgct
                                                                   15240
ggctacctta ccgcaggtac atctacatca gtcatgtcta acctgccacc tcctgtagac
                                                                   15300
catgaggcag gcgaccttgg ctatcagact tgaaatattc acgagagaca ataaacgctg
                                                                   15360
aaaggccagt gccaagtcca cattcctcca gctgatacgt tgaagcaaac tcttactgcc
                                                                    15420
tttctcctgg tttcatgaca gtgttattcc tttttctata aatatattt taggaaaaaa
                                                                   15480
agtcagtgat cctaattgta tcacattata agaaagcact ctgtggatca acataagtgg
                                                                    15540
gtacacaaga atttttttt tcttggtgta tgtaagcaca tttgttcctt tatatctgtt
                                                                    15600
tacaaaactg tgaatcaaaa agacaaaact ttcttcctag tttttgtaat ttttttttg
                                                                    15660
aactagcatg actgtagggt tgagctacag tcaacaaaaa ttgggctaag tcacttttcc
                                                                    15720
ccaggaaaga atatttccct ctcctgcatc aagtctgcgt ggccatcctc cccccaccat
                                                                    15780
ccaagactat taggttttgt ccctgcaccc ttcactggca tcctcaatca ttaaccttct
                                                                    15840
gaaagctcac agtacacatt agtatgtata actggcttta ccaaattgaa tgaaaaggag
                                                                    15900
cttgtgcaaa aaaatttaaa aatggatgtc aagatgttat gtaaaagatg agtgtaattg
                                                                    15960
tgaaatgttc tatacactat caaatatata aagctttcta tattgaatgt acattataca
                                                                    16020
gatcattcat atgtgtacat aaaattttaa aaataaaggg aattgactgc tttgttaatg
                                                                    16080
                                                                    16083
aga
```

```
<210> 12718
```

atggctacca accetgtgtt tttataatgt taaaggacta gaacaggtaa atgacattaa 60 tgttgatgag agtcaacatg gtttaggttc ctggtttaat tttgttgttg tttgtatgat 120

<211> 1805

<212> DNA

<213> Homo sapiens

<400> 12718

```
tttacttggt ttttccatag cctttctggg aaatataatt taggatctat ttcttactcc
                                                                     180
agatagaaag agataacagc tttcataatg tggcagaagc tacgtttaca ctcaagctga
                                                                     240
                                                                     300
ttcaatcact gattgcaagt ggaatagcag gctctatgat tggtgtgata acattataca
                                                                     360
aatcccagat gtacaaggtt ggtattatgt attacagtat ttgccatata ttaaatatta
420
                                                                     480
cttttggtac tgtaattaat atattaaaaa agaaacattc tgatttttt ctggtctggc
tttttttctg tataattaaa tgtaaaccta acaaggttta attaaattta gtttacagct
                                                                     540
                                                                     600
gttgcggcaa aaatgcaaaa agcaaattag agggaagaaa atatggtgta tgctttgtag
acagatggga ctgaatctct gttatccaaa atgttctttt attattggta cattttatca
                                                                     660
gtaaatcaag gatagatacc aaatattaat gtacacatga gccaattact tctaactaga
                                                                     720
tttttctctt agtattttt atctgtttca ttattagttt atcagctcca aattagcata
                                                                     780
                                                                     840
tccaaatgag ttacccagca atagataaat tgcttttgat tttgtgtcat aattaatatt
                                                                     900
tttatctagt catttatcta tcattttaga aactagccaa gtctatgtga gtcataaaag
aaaaatgaaa attatttact attagttaaa ttacagtggt tgctttgagc aggttcagag
                                                                     960
qcttaagttc ttcacaatct cttactacat gattgctgtt ttttcttcca cagctttgtc
                                                                    1020
atttactcag tgctgtggac tttcaccatc ctgatattaa aactgtgcag gtgtccacag
                                                                    1080
                                                                    1140
tagatgcttt tcagggagct gaaaaggaga tcattattct gtcctgtgta aggacaagac
aagtaggatt cattgattca gaaaaaagaa tgaatgttgc attgactaga ggaaagaggc
                                                                    1200
                                                                    1260
atttgttgat tgtgggaaat ttagcctgtt tgaggaaaaa tcaactttgg ggacgagtga
                                                                    1320
tccaacactg cgaaggtaaa ataaaaatgg gtttaattca tgcatttcaa gttcaaactg
                                                                    1380
acttttatgg gttaatgctt ggggtgcttc aagcaggaac agctctgctg ggggaagtaa
                                                                    1440
ctgacatgat aatattggga cctctgtaaa ataaagaata gttgtctcat gtcgtatgtt
                                                                    1500
tttttaagga agggaagatg gattgcaaca tgcaaaccag tatgaaccac agctgaacca
                                                                    1560
tctccttaaa gattattttg aaaaacaagt ggaagaaaaa cagaagaaaa agagtgaaaa
                                                                    1620
agagaaatct aaagataaat ctcattcata aaaagacatg gtgtaaatat tttgtattta
                                                                    1680
tgtaaattca gactcatttt acatgatata ttttttatat ttttattact ctaaaccctc
                                                                    1740
ttattaaaaa tatgatattt aaataacata gtaaacacat gtaaaaattt tgttcttcaa
aaaagtgtac aaaaggtagt ataaaatcct actaataaaa ataagctttt ttctaagaag
                                                                    1800
                                                                    1805
aatga
<210> 12719
<211> 1317
<212> DNA
<213> Homo sapiens
<400> 12719
ctgctgctca tttttctaaa aaatgtttta ttggaacaca attatgccca gttgtttaca
                                                                      60
tatcatcctt ggctcttttc ctctcataat atttactgtc tgtatgttta taggaaaagg
                                                                     120
tttgctttag cttatgcata gacaattatt ttaatgtcac tattaaaaat aataatttct
                                                                     180
                                                                     240
taatagttta aatatcacat ttacatagat taatttccaa tcatgcatat tgttttgtac
                                                                     300
cactactatt tgttttgttc tctcatctgt ttattcctgt gtcaatactg ctcttataat
acctttgtgt acatttaaaa ccttgaaaag caaattactt ttcattattt actttcaaat
                                                                     360
                                                                     420
tttttctagg aatttcccat gcatttattt tttacataaa gtttagaaaa aaaatttcca
ctttaaaaaa ctgagatcct gattactgtt atagtaagat gacatatcgg tttaaataaa
                                                                     480
attggaaata ttgtgatatt aaaagtcttc caatccagaa acatgctatg tctttctatt
                                                                     540
                                                                     600
tattcatgtt ttagtttatg tccttttata actttttata gctcttttca tgtaggccta
                                                                     660
ctaattttaa gttaaattta atctatgata ttttgtagtt tttactactt tttaaaatga
gattttcctt ttgcatacct atttctaaca tgaaattgtt agcattaaaa tctagctagt
                                                                     720
caacttggat tcagccactt taccaaattg ctttattatt ttaagcacgt ttttagtagt
                                                                     780
cttttatatt ttttaggcaa gccatcaaat ggagatattt ttggtttttg actatgggaa
                                                                     840
                                                                     900
tagttactgt tcctgttttt taatcatgat gactttcata tttcatcttt gttactacgt
ttttacttgg atattgttaa ttatactttt ccatgtttag actgtttctt ctattcccat
                                                                     960
gtcactatga attttaatta ggaatgtctt ctaaatttta ttcaatacga ttttagcaca
                                                                    1020
tgttgatata atcacgtatt ttttgctttt ttctctttaa tttgtttata taataaatta
                                                                    1080
tattgagaaa tttacttaat gctgaaccag tagccatgga gtatacttta cttagttaaa
                                                                    1140
aatgtgacat tctaaaatat gatgctgtat tattttgaat ataatttatt aggaattttt
                                                                    1200
atatctatct tgaaaaagaa actggctata gctttctgtg atagctttat caagttttga
                                                                    1260
```

1317

tatcttggtc tatgtcttga gagaatttaa ataaaggata attgctctga acaaaat

```
<210> 12720
<211> 1317
<212> DNA
<213> Homo sapiens
<400> 12720
ctgctgctca tttttctaaa aaatgtttta ttggaacaca attatgccca gttgtttaca
                                                                      60
tatcatcctt ggctcttttc ctctcataat atttactgtc tgtatgttta taggaaaagg
                                                                     120
                                                                     180
tttgctttag cttatgcata gacaattatt ttaatgtcac tattaaaaat aataatttct
taatagttta aatatcacat ttacatagat taatttccaa tcatgcatat tgttttgtac
                                                                     240
cactactatt tgttttgttc tctcatctgt ttattcctgt gtcaatactg ctcttataat
                                                                     300
acctttgtgt acatttaaaa ccttgaaaag caaattactt ttcattattt actttcaaat
                                                                     360
                                                                     420
tttttctagg aatttcccat gcatttattt tttacataaa gtttagaaaa aaaatttcca
                                                                     480
ctttaaaaaa ctgagatcct gattactgtt atagtaagat gacatatcgg tttaaataaa
                                                                     540
attggaaata ttgtgatatt aaaagtcttc caatccagaa acatgctatg tctttctatt
                                                                     600
tattcatgtt ttagtttatg tccttttata actttttata gctcttttca tgtaggccta
                                                                     660
ctaattttaa gttaaattta atctatgata ttttgtagtt tttactactt tttaaaatga
                                                                     720
gattttcctt ttgcatacct atttctaaca tgaaattgtt agcattaaaa tctagctagt
                                                                     780
caacttggat tcagccactt taccaaattg ctttattatt ttaagcacgt ttttagtagt
cttttatatt ttttaggcaa gccatcaaat ggagatattt ttggtttttg actatgggaa
                                                                     840
tagttactgt tcctgttttt taatcatgat gactttcata tttcatcttt gttactacgt
                                                                     900
ttttacttgg atattgttaa ttatactttt ccatgtttag actgtttctt ctattcccat
                                                                     960
gtcactatga attttaatta ggaatgtctt ctaaatttta ttcaatacga ttttagcaca
                                                                    1020
tgttgatata atcacgtatt ttttgctttt ttctctttaa tttgtttata taataaatta
                                                                    1080
tattgagaaa tttacttaat gctgaaccag tagccatgga gtatacttta cttagttaaa
                                                                    1140
aatgtgacat tctaaaatat gatgctgtat tattttgaat ataatttatt aggaattttt
                                                                    1200
atatctatct tgaaaaagaa actggctata gctttctgtg atagctttat caagttttga
                                                                    1260
tatcttggtc tatgtcttga gagaatttaa ataaaggata attgctctga acaaaat
                                                                    1317
<210> 12721
<211> 1859
<212> DNA
<213> Homo sapiens
<400> 12721
ctgaattcca tgtttcatta ctgggtagaa gttacagaac aaatggattt agcttattat
                                                                      60
aaggagaagt tttctaattg ttagaattta catatctgtg gaatgaggct atttgtcaaa
                                                                     120
ctagagagtt ctttttccct taaagatgta tagtaagagc agtgcgaaca tctcacaagg
                                                                     180
gatgttagat attcttctgt ggatagatct tgcacatgat gacctcctgg gctctcccag
                                                                     240
ccctgtgatt ctgagatcac agtgcccatt tcaggaatcc tcactgtcta gacccatcca
                                                                     300
ctaaaatgaa tcatcatctt attcacatct aagccccatt acaagtttat tagtatcatc
                                                                     360
cctttcagtg gaaatgcgaa atattttatt cagttatgct aatgtaatta gctcataatg
                                                                     420
tcaaatgctt gagaagttga ggttgtagtt ctgctgggta tttgtttctc atgtcaaata
                                                                     480
tcataccatc agtgaaattg ttcataacca ccaaaattaa caattagccc cttcagcccc
                                                                     540
tcttccacct ttatcatatt tatttgctta acaaatttat cttttttttt ttttttactc
                                                                     600
attgattctg aatctccctc tatttaaatg tatattctgt gacagcagtc ctcaaccttt
                                                                     660
gttgcaccaa ggaccagttt tgtggaagtc agtttttcca cggacagggg cagaacaggg
                                                                     720
                                                                     780
gaggagcata caacctcaat tcctcgcatg tgcagttcat aatagggttc gtcttcctat
                                                                     840
gagaatctaa tgccaccact gatctgacag gaggcggagc tcaggtggta atgcaagcag
                                                                     900
tggggagtgg ctctgaatac agatgaagct ttgctcattc aactgccact cacctactgc
                                                                     960
tatgtagccc agttcctaac aggcttcaga atgggggatg ggaaccctgg ttctatgaga
                                                                    1020
gcagaatcca tgtatctttt tgtaccactg aatcccaagc atttcgtgtt ggtacatttt
                                                                    1080
tctgtaaggg aatccgtgtc ttttgttggc ttttaaaaatg gccacctaaa aaaatttagg
                                                                    1140
aactactata agagtaatgt tgtcaaaatc aaataccact gttgagattt tgaatctgtg
                                                                    1200
aaggataatt gcattettaa tattttgtet teeetteeaa aateatgeta gttagtattt
                                                                    1260
                                                                    1320
cttcatttat tcaagatttc ttttatgcca aatagtaaat tttggtaatt ttctttatat
                                                                    1380
aggccataaa catgtattat taatttaatt tcttggtatt ttttaatcta ctaatgggtc
tactaatgag ctttctcaaa ggaaggagag gagggaagaa gaagggacat tggaaaagga
                                                                    1440
tatacagaat atttttatca gtctaggtaa aggttaactt gcctctggta atctcatttt
                                                                    1500
```

```
tttaagttct ttaagcatat agataattaa gaaaataaat tggctaggca ctgtggctcg
tgcctgtaat cccatcactt tgggaggctg aagtgggtgg attgcctgag gtcaggattt
                                                                    1620
                                                                    1680
caaqaccagc ttgaccaata tggggaaacc ccatctctac taaaaataca aaagttagct
                                                                    1740
gggcatggtg gcatgcgcct gtagtcccag ctattcagga ggctgagaca ggagaattgc
                                                                    1800
ttgaacccgg tagaattgct tgaacccggg aggcggaggt tgcagtgagc cgagatcatg
                                                                    1859
ccattgcact ccagtctagg caacagggca aaactccatc tccaaaaaaa aaaaaaaaa
<210> 12722
<211> 6410
<212> DNA
<213> Homo sapiens
<400> 12722
                                                                      60
atttttttt aaattttatt attattacag tttaagtttt agggtacatg tgcacaatgt
gcagcttagt tacatatgta tacatgtgcc atgctggtgt gctccaccca ttaactcgtc
                                                                     120
atttagcatt aggtatatct cctaatgcta tccctccctc cttcccccac cccacaacag
                                                                     180
                                                                     240
tccccagagt gtgatgttcc ccttcctgtg tccatgtgtt ctcattgttc aattcccacc
                                                                     300
tatgagtgag aacatgcggt gtttggtttt ttgtccttgt gatagtttac tgagaatgat
gatttccagt ttcatccgtg tccctacaaa ggacatgaac tcatcatctt ttatggctgc
                                                                     360
                                                                     420
atagtattcc atggtgtata tgtgccacat tttcttaatc cagtctatca ttgttggaca
tttggcttgg ttccaagtct ttgctattgt gaatagtgct gcaataaaca tacgtgtgca
                                                                     480
                                                                     540
tqtqtcttta tagcagcatg atttataatc ctttgggtat atacccagta atgtgatgac
                                                                     600
tgggtcaaat ggtatttcta gttctagatc cctgaggaat cgccacaccg acttccacaa
                                                                     660
tggttgaact agtttacact cccaccaaca gtgtaaaagt gttcctattt ctccacatcc
                                                                     720
tctccagcac ctgttgtttc ctgacttttg aatgattgcc attctaactg gtgtgagatg
gtatctcatt gtggttttga tttgcatttc tctgatggcc agtgatggtg agcatttttt
                                                                     780
                                                                     840
catgtgtttt ttggctgcat aaatgtcttc ttttgagaag tgtctgttca tgttcttcac
                                                                     900
ccactttttg atggggttgt ttgtttttt cttgtaaatt tgtttgagtt ctttgtagat
                                                                     960
tccggatatt agccctttgt cagatgagta ggttgcgaaa attttctccc attctctagg
                                                                    1020
ttgcctgttc actctgatgg tagtttcttt tgctgtgcag aagctcttta gttgaattag
atcccatttg tcaactttgg cttttgttgc cattgctttt ggtgttttag acatgaagtc
                                                                    1080
cttgcccatg cctatgtcct gaatggtatt gcctaggttt tcttctaggg tttttatggt
                                                                    1140
tttaggtcaa acgtttaagt ctttaatcca tcttgaatta atttttgtat aagatgtaag
                                                                    1200
                                                                    1260
gaagagatcc agtttcagct ttctccatat ggctagccag ttttcccagc accatttatt
aaatagggaa tcctttcccc attgattgtt tttctcaggt ttgtcaacga tcagatagtt
                                                                    1320
1380
ttggtaccag taccatgctg ttttggttac tgtagccttg tagtatagtt tgaagtcagg
                                                                    1440
                                                                    1500
tagcgtgatg cctccagctt tgttcttttg gcttaggatt gacttggcaa tgtgggctct
tttttggttc catatgaact ttaaagtagt tttttccaat tctgtgaaga aagtcattgg
                                                                    1560
                                                                    1620
tagcttgatg gggatggcat tgaatctgta aattaccttg ggcagtatgg ccattttcac
                                                                    1680
gatattgatt cttcctaccc atgagcatgg aatgttcttc catttgtttg tatcctcttt
                                                                    1740
tatttcattg agcagtggtt tgtagttctc cttgaagagg tccttcatgt cccttgtaag
ttggattcct agatatttta ttctctttga agcaattgtg aatgggagtt cactcatgat
                                                                    1800
ttggctctct gtttgtctgt tattggtgta taagaaagct tgtgattttt gtacattgat
                                                                    1860
tttgtatcct gggactttgc tgaagttgct tatcagctta aggagatttt gggctgagac
                                                                    1920
aatggggttt tctagatata caatcatgtc atctgcaaac agggacaatt tgacttcctc
                                                                    1980
tttttctaat tgaataccct ttatttcctt ctgcctaatt gccctggcca gaacttccaa
                                                                    2040
cactatgttg aataggagtg gtgagagagg gcatccctgt cttgtggcag ttttcaaagg
                                                                    2100
                                                                    2160
aaatgcttcc agtttttgcc cattcagtat gatattggct gtgggtttgt catagatagc
tcttattatt ttgagatacg tcccatcaat acctaattta ttgagagttt ttagcatgaa
                                                                    2220
gtgttgttaa attttgtcaa aggccttttc tgcatctatt gagataatca tgtggttttt
                                                                    2280
gtctttggct ctgtttatat gctggattac atttattgat ttgcatatat tgaaccagcc
                                                                    2340
ttgcatccta gggatgaagc ccacttgatc atggtggata agctttttga tgtgctgctg
                                                                    2400
gattcagttt gccagtattt tattgaggat ttttgcatca atgttcatca aggatattgg
                                                                    2460
                                                                    2520
totaaaatto tottttttgg ttgtgtotot gocaggottt ggtatcagga tgatgotggo
ctcataaaat gagttaggga gggttccctc tttttctatt gattggaata gtttctgaag
                                                                    2580
gaatggtacc agttcctcct tgtacctctg gtagaatttg gctgtgaatc catctggtcc
                                                                    2640
                                                                    2700
tggactcttt ttggttggta agctattgat tattgccaca atttcagatc ctgttattgg
tctattcaga gattcagctt cttcctggtt tagtcttggg agggtgtatg tgtcgaggaa
                                                                    2760
```

2820

tttatccatt tcttctagat tttctagttt atttgcgtag aggtgtttgt agtattctct

```
gatggtagtt tgtatttctg tgggatcggt ggtgatgttc cctttatcat tttttattgc
                                                                    2880
atctatttga ttcttctctg ttttcgtctt tattagtctt gctagcggtc tatcaatttt
                                                                    2940
                                                                    3000
gttgatcctt tcaaaaaacc agctcctgaa ttcattaatt ttttgaaggg ttttttgtgt
                                                                    3060
ctctatttcc ttcagttctg ctctgatttt agttatttct tgccttctgc tagcttttga
                                                                    3120
atgtgtttgc tcttgcttct ctagttcttt taattgtgat gttagggtgt caattttgga
                                                                    3180
tctgtcctgc tttctcttgt gggcatttag tgctataaat ttccctctac acactgcttt
gaatgtgtcc cagagattct ggtatgttgt gtctttgttc tcattggttt caaagaacat
                                                                    3240
cttttttct gccttcattt cattatatac ccagtagtca ttcaggagca ggttgttcag
                                                                    3300
tttccatgta gttgagtggt tttgagtgag tttcttaatc ctgagttcta gtttcattgc
                                                                    3360
actgtggtct gagagacagt ttgttataat ttctgttctt ttacatttgc tgaggagagc
                                                                    3420
tctacttcca actatgtggt caattttgga ataggtgtgg tgtggtgctg aaaaaaatgt
                                                                    3480
atattctgtt gatttggggt gcagagttct gtagatgtct attaggtccg cttggtgcag
                                                                    3540
                                                                    3600
agctgagttc aattcctgga tatccttgtt aactttctgt ttcgttgatc tgtctaatgt
tgacagtggg gtgttaaagt ctcccattat tattgtgtgg gagtctaagt ctctttgtag
                                                                    3660
gtccctcagg acttgcttta tgaatctggg tgctcctgta ttgggtgcat atatatttag
                                                                    3720
                                                                    3780
gatagttagc tettettgtt gaattgatee etttaceatt atgtaatgge ettettete
                                                                    3840
tcttttgacc tttgttggtt taaagtctgt tttatcagac actaggattg caacccctgc
                                                                    3900
ctttttttgt tttccatttg cttggtagat cttcctccat ccttttattt tgagcctatt
                                                                    3960
tgtgtctctg cacgtgagat gggtttcctg aatacagcac actgatgggt cttgaccgtt
                                                                    4020
tatccaattt gccagtctgt gtcttttaat tggagcattt agtccattta catttaaagt
                                                                    4080
taatattgtt atgtgtgaat ttgatcctgt ggttatgatg ttagctggtt atcttgctcg
                                                                    4140
ttagttgatg caggttcttc ccagcctcga cggtctttac aatttggcat gtttttgcag
                                                                    4200
tqqqtqqtac ggtttgttcc tttccatgtt tagtgcttcc ttcaggagct cttttagggc
                                                                    4260
aggcctggtg gtgagaaaat ctctcagcat ttgcttgtct gtaaaggatt ttatttctcc
                                                                    4320
aagaatgttg actattgtcc cccactctct tctggcttgt ggagtttctg ccgagagatc
                                                                    4380
                                                                    4440
cgctgttagt ctgatgggct tccctttgtg ggtaacccgg cctttctctc tggctgccct
                                                                    4500
taacattttt tccttcattt caactttggt gaatctgaca attatgtgtc ttggagttgc
                                                                    4560
tcttctcgag gagtatcttt gtggcgttct ctgtatttcc tgaatctgaa cgttggcctg
ccttgctaga ttggggaagt tctcctggat aatatcctgc agagtgtttt ccaacttggt
                                                                    4620
                                                                    4680
tccatcctcc ccgtcacttt caggtacacc aatcagacgt agatttggtc ttttcacata
gtcccatatt tcttgaaggc tttgttcgtt tctttttatt ctttttctc taaacttccc
                                                                    4740
                                                                    4800
ttctcacttc atttcattca tttcatcttg catcactgat accetttctt ccagttgatc
gcattggctc ctgaggcttc tgcattcttc atgtagttct cgatccttgg ctttcagctc
                                                                    4860
catcagctcc tttaagcact tctctctatt gattattcta gttatacatt cgtctaaatt
                                                                    4920
tttttcgaag tatttaactt ctttgccttc ggtttgaatt tcctcctgta gctcggagta
                                                                    4980
ctttgattgt ctgaagtctt cttctccca ctcgtcaaag tcattctccg tccagctttg
                                                                    5040
                                                                    5100
ttccattgct ggtgaggaac tgcgttcctt tggaggagga gaggcactct gctttttaga
gtttccagtt tttttgctct gttttttccc catctttgtg gttttatcta cttttggtct
                                                                    5160
ttgatgatgg tgatgtacag atgggttttt ggtgtggatg tcctttctgt ttgttagttt
                                                                    5220
tccttctaac agacaggacc ctcagctgca ggtctgttgg agtttgctag aggtccactc
                                                                    5280
cagaccctgt ttgcctgggt atcagcagcg gtagcttcag aactgcggat tttcatgaac
                                                                    5340
cacgaatgct gctgtctgat cgttcctctg gaagttttgt ctgaaaggag tacccggccg
                                                                    5400
tgtgagatgt cagtctgccc ctactggggg gtgcctccca gttaggctgc tcgggggtca
                                                                    5460
ggggtcaggg acccacttaa ggaagcagtc tgcccattct cagatctcca gctgtgtgct
                                                                    5520
tggagaacca ctactctctt caaagctgtc aaacagggac atttaagtct gcagaggtta
                                                                    5580
ctgctgtctt tttgtttgtc tgtgccttgc ccccagaggt ggagcctaca aaggcaggca
                                                                    5640
ggcctccttg agttgtggtg ggctctaccc agttcgagct tcccggctgc tttatttacc
                                                                    5700
taagaaagcc tgggcaatgg cgggcgcccc tcccccagcc tcgctgccac cttgcagttt
                                                                    5760
                                                                    5820
gatctcagac tgctgtgcta gcagtcagtg agactccgtg ggtgtaggac cctccgagcc
aggtgcggga tataatctcg tggtgcaccg ttttttaagc ccatcggaaa agcgcagtat
                                                                    5880
tagggtgaga ttgacccgat tttccaggtg ccatctgtca cccctttctt tgactaggaa
                                                                    5940
agggaactcc ctgacccctt gcgcttcccg agtgaggcaa tgcctcgccc tgcttcggct
                                                                    6000
                                                                    6060
cccgcacggt gcgctgcacc cactgtcctg cacccactgt ctggcactcc ctagtgagat
gaacccagta cctcagatgg aaatgcagaa atcacccgtc ttctgcattg cttactctgg
                                                                    6120
                                                                    6180
gagctgtaga ccggagctgt tcctattcgg ccatcttggc tgccagcttc tttgtgtagt
ttcattacca cttgagatgc aattaaattt gttttagttt tcagtttgag ggaatttgtt
                                                                    6240
                                                                    6300
tttcttttta gttcaacttt agtttttgag tatgtataat tttaagcagc attaatagag
                                                                    6360
tataatcttt tcaacactgc ccaaaacatg acacatctag aataatctgt ttacttcttt
                                                                    6410
ttgccatatt ttaggaatgg ccagcccagt atcaagggtg ggatgatacg
```

```
<210> 12723
<211> 407
<212> DNA
<213> Homo sapiens
<400> 12723
attttaccac atttgcttta ctattgtgtt tgtctctttt ttttgaaatg gttgagaata
                                                                       60
                                                                      120
agtttacaga catgatgtcc cattgctaag tactacatgg tgtatttctt aaaaataagg
atatttttca aaatcaggaa attaacattg ataaaaacta ttttaagtaa aaaatgcctt
                                                                      180
ttttctcctc caagtcagga atctaatacc aaaatcatgt tacatatagt tgtcttcttt
                                                                      240
catctttttt aatctggaat ggtccctcag tctttctttg tcttttatgg cctttaaaat
                                                                      300
                                                                      360
ttqqaqaata cagaacagtt ttttgtttat ttgtagaatg tccctcaatt ttggtttgct
                                                                      407
tgattttttg ggaattagat tttggctatg ctgtgatcat atcagga
<210> 12724
<211> 1299
<212> DNA
<213> Homo sapiens
<400> 12724
                                                                       60
gagatcctgc ctcaataaat aaataaataa ataaaaataa agtaaatgga attacacaat
atgtgctttt ggtgactggc ttttttcact ttgcatgttt tcaaggttca tccatttgtt
                                                                      120
tggtgtttta aatcttatgt ggttgagttt ggtttcatgt cagtgtttat ttgccttttg
                                                                      180
                                                                      240
ttttcaaaga taagaccact taaattatta gattatttga attctcctta agttataagt
                                                                      300
ctggtcctgc tatatcagtt atctaagtat ttagaaatgg tagactaggg gacctaggtt
tcttaaactt ttctctcttt tacttaggtg tgcaatatga ataaaatatc agtagatttg
                                                                      360
                                                                      420
tattttagaa aatggggcat acaagattgg gggctttatt gacacattta attctttcat
                                                                      480
gtgtaaaatt acttatgtga aaatgtgatt ttcttgtttt ttccccagac taaaaagttt
                                                                      540
ttgttaatta ttatgagtat ttctatagtt ggctgttttt acctggcaag aatgcttttc
tgctcagatg aagagataaa ggcattaggc ctgggatgga catttctgag tgaattaatg
                                                                      600
                                                                      660
ttggattggt attttttta tgagtggaag agacaaacta tcttacatcc attggtttta
aaacattttt taatttcagt atatatatgt agagaaaagt acacatgtca taagcctata
                                                                      720
cagctcaatg aattttaaga aactgaacac acatgggtaa ctagcaccca aatcaggata
                                                                      780
tataaaatgt tccttgcatt ccaaaagcct tcttttgtgc ttctttccag tcattatcct
                                                                      840
                                                                      900
ttctccccaa aaaggagtca acaccctgat gtctaacagt atagaatagt ttagttcatc
                                                                      960
catggatgca gtgagccaag atcacgccac tgcactccag cctgggtgac agagtgagac
tctgtctcaa aaaacaaaca aacaaacaaa aaacaaaccg aaaatattag tctgtaaaga
                                                                     1020
ttgatcttga gcctaaactt ttagatgttt tctatccttt gaacaaatgc ttctgtatct
                                                                     1.080
taagcttgga aggacactgg gaaactaaac acttttaaaa ggcacttttc tttcaatagc
                                                                     1140
ccacttataa agtttgcttt atctaccagt acgggggaaa aaaagaataa agttggtttt
                                                                     1200
attccattta aagtagtttt ggtatttctt tgctccatac caaagtcttc ctcccccaaa
                                                                     1260
                                                                     1299
ataaacaagt gaattagaac caaaaaaaaat caagaaaaa
<210> 12725
<211> 1381
<212> DNA
<213> Homo sapiens
<400> 12725
aataaataaa taaataaata aaaataaagt aaatggaatt acacaatatg tgcttttggt
                                                                       60
gactggcttt tttcactttg catgttttca aggttcatcc atttgtttgg tgttttaaat
                                                                       120
                                                                       180
cttatgtggt tgagtttggt ttcatgtcag tgtttatttg ccttttgttt tcaaagataa
                                                                       240
gaccacttaa attattagat tatttgaatt ctccttaagt tataagtctg gtcctgctat
atcagttatc taagtattta gaaatggtag actaggggac ctaggtttct taaacttttc
                                                                       300
                                                                       360
tctcttttac ttaggtgtgc aatatgaata aaatatcagt agatttgtat tttagaaaat
                                                                       420
ggggcataca agattggggg ctttattgac acatttaatt ctttcatgtg taaaattact
tatgtgaaaa tgtgattttc ttgttttttc cccagactaa aaagtttttg ttaattatta
                                                                       480
tgagtatttc tatagttggc tgtttttacc tggcaagaat gcttttctgc tcagatgaag
                                                                       540
```

```
agataaaggc attaggcctg ggatggacat ttctgagtga attaatgttg gattggtatt
                                                                     600
ttttttatga gtggaagaga caaactgtct tacatccatt ggttttaaaa catttttaa
                                                                     660
                                                                     720
tttcagtata tatatgtaga gaaaagtaca catgtcataa gcctatacag ctcaatgaat
                                                                     780
tttaagaaac tgaacacaca tgggtaacta gcacccaaat caggatatat aaaatgttcc
                                                                     840
ttgcattcca aaagccttct tttgtgcttc tttccagtca ttatcctttc tccccaaaaa
                                                                     900
ggagtcaaca ccctgatgtc taacagtata gaatagttta gttcatccat ggatgcagtg
                                                                     960
agccaagatc acgccactgc actccagcct gggtgacaga gtgagactct gtctcaaaaa
acaaacaaac aaaaacaaa ccgaaaatat tagtctgtaa agattgatct tgagcctaaa
                                                                    1020
cttttagatg ttttctatcc tttgaacaaa tgcttctgta tcttaagctt ggaaggacac
                                                                    1080
tgggaaacta aacactttta aaaggcactt ttctttcaat agcccactta taaagtttgc
                                                                    1140
tttatctacc agtacggggg aaaaaaagaa taaagttggt tttattccat ttaaagtagt
                                                                    1200
                                                                    1260
tttggtattt ctttgctcca taccaaagtc ttcctcccc aaaataaaca agtgaattag
                                                                    1320
aaccaaaaaa aatcaagaaa aagaaaaaag ttaataattt cttctagttc tcagagtttt
atataagact gtacaaaatt atcgtcattt agaatttttt ttttcaccag ccctgaattt
                                                                    1380
                                                                    1381
<210> 12726
<211> 7301
<212> DNA
<213> Homo sapiens
<400> 12726
                                                                      60
attattaatt agatggcacc agtttagctc tgtgtaaact tcaatctact cccaagtgca
                                                                     120
180
ccacttgctt cttgtcttgt tcacctgaca tttggtttct gcttgttaca gaaaagaaga
                                                                     240
ggaaaggctc aaccaagaga aaaaggtctc tgtttattta gaagacacag actaacaatt
                                                                     300
ttagatggta aggttcacaa ataggttgat ttctttcttc agctttctga catgtccagc
                                                                     360
ccatctctaa tgaggactcc cagatcatca ctttatggct gttaggtgtt tcccatatga
                                                                     420
aattagagga gctgggtcag ggagacaaaa gtcttctatt agtcttatgg atagctcctc
                                                                     480
cttgagtgta ttttgtgcaa aagattaaga agctggactc tactgccatt aaagctgaga
gaatcctaag gttatttgtg gcttcggggt tatatttatt actactacta ctaataaata
                                                                     540
ttcaacaagt aaataaatct tttttaaatc aaaagattag tatctgctta ttctttttt
                                                                     600
ttaattgtaa accaattatg gtattaagag agtgactcaa tagacatatc tggcagtttt
                                                                     660
                                                                     720
tacaggagag cttttgtact atttggaatt gatttcaact cctctcatta gttattggca
ctaataacta cctgaaatga atccagtttt agtaagcata taattttatt tttccagttt
                                                                     780
                                                                     840
tcaggttcat caggcttaaa aagtaggata atttatttt cttgtctttg tttttgagac
                                                                     900
agggtctcaa cccgttgccc aggctagggt gtagtggtgc gatcttgggt cactgcaact
tetecetece aageteaagt gateeteeta eeteageete eeaagtaget gggaceacag
                                                                     960
gtgcgccca ctacacccag ctaatttttg tactttttgt agagacgggg tttccccatg
                                                                    1020
ttgcctaggc tggtctcacc tgagctcaag cgatccacct gcctcagcct cccaaagtgt
                                                                    1080
tgggattaca ggcataagcc actgcgccgg gccaatttat ttttcatatg ctcagaattt
                                                                    1140
ctcccattct ctgaaatagg tccacacatt taatttctag atgttataaa tccggacatg
                                                                    1200
                                                                    1260
caaacttaaa ttttacgctc ataagaaagt tcttgatatt aatgacttta tcctgtaaaa
ctctggctct gttacacgga agaacatttt ttacagaccg ttattagttg caaagagggt
                                                                    1320
cacattttta taggctaagc tccagtgaaa gacctcaagg atttataaaa tagaatatgg
                                                                    1380
agtaaaatga ttgtattgta aaaccagaaa accaaaatta acattaggga gtttttacca
                                                                    1440
                                                                    1500
accaatggct attgtctttt taaagttaag gggattatct aacaacttgg ggtcatggaa
aataaatatg ggagatgttt tagatcaaaa gaaacttaag agatgaacac aatcaaagtg
                                                                    1560
caatgtgtga tccccaactg gatgaataat agtgtgaaca agctagttgt aaaaacaagc
                                                                    1620
ttagaggggc aattgggaaa gtcttgaata tgaaaatgtt aaatatatgg ataatattag
                                                                    1680
ggaattattg ttagtttgta ttaggtatag tgatggtatt gtagttataa agaaaatgta
                                                                    1740
cctattttga aaaattctta ctggagtatt aggggtaaat gtcagcaatt tactttaaaa
                                                                    1800
gcatatgaaa aaaagcaaat aaaacaaaaa aggcttcaga attaggtgat gggggagatg
                                                                    1860
aggggagaaa agaaaagaaa agaatgaatt aatgaattta agggatgggt aaattccaca
                                                                    1920
                                                                    1980
tactctgttc tctacttttc tatatgtctg attttgtttg taatgagagt gagaagtggg
gagaatatgg gatgtatgtg tgtgaacaag ttgtgggtca tccaagtgtc catgcaaggt
                                                                    2040
                                                                    2100
acttagaggc catgatttaa ggatactaac tctgaaaatt atgtaataag gattaggaaa
                                                                    2160
cttcttttaa aaattaaatt gggggagaat atgaatactt tccctcagaa tattttcctt
ctaataacat atatgtaatt cataatgcca agtattccta ttgtactctt ctcaatatat
                                                                    2220
tatccattta aacttttgtt ttgtgtttta ggaagctgag atgatttcca agaacaagaa
                                                                    2280
```

2340 ccctagtatt tcttgaagtt aatggaaact tttctttggc ttttccagtt gtgacccgtt 2400 ttccaaccag ttctgcagca tattagattc tagacaagca acacccctct ggagccagca cagtgctcct ccatatcacc agtcatacac agcctcatta ttaaggtctt atttaatttc 2460 agagtgtaaa ttttttcaag tgctcattag gttttataaa caagaagcta catttttgcc 2520 cttaagacac tacttacagt gttatgactt gtatacacat atattggtat caaaggggat 2580 2640 aaaaqccaat ttgtctgtta catttccttt cacgtatttc ttttagcagc acttctgcta 2700 ctaaagttaa tgtgtttact ctctttcctt cccacattct caattaaaag gtgagctaag 2760 cctcctcggt gtttctgatt aacagtaaat cctaaattca aactgttaaa tgacattttt 2820 atttttatgt ctctccttaa ctatgagaca catcttgttt tactgaattt ctttcaatat 2880 tccaggtgat agatttttgt cgttttgtta attaatccaa gatttacaat agcacaatgc 2940 taaatcacac agtaactaca aaaggttaca tagatatgaa aagattggca gaggccattg 3000 caggatgaat cacttgtcac ttttcttctg tgctgggaaa aataatcaac aatgtgggtc tttcatgagc agtgacggat agtttagctt actatgtttc ccccccaatt caatgatcta 3060 taacaacaga gcaaagtcta tgctcatttg cagactggaa tcattaagta atttaataaa 3120 aagattgtga aacagcatat tacaagtttg aaaatccagg gctggtgaaa aaaatcaact 3180 ctaaatgatg ataattttgt acagttttat ataaaactct gagaactaga agaaattatt 3240 aactttttt ctttttaat tctaattcac ttgtttattt tgggggagga agactttggt 3300 atggagcaaa gaaataccaa aactacttta aatggaataa aaccaacttt attcttttt 3360 tcccccatac tggtagataa agcaaacttt ataagtgggc tattgaaaga aaagttacaa 3420 gcttaagata cagaagcatt tgttcaaagg atagaaagca tctaaaagtt taggctcaag 3480 atcaatcttt acagattgat attttcagtt tttaatcgac tggactgcag atgttttttc 3540 3600 ttttaacaaa ctggaatttt caaacagatt atctgtattt aaatgtatag accttgatat ttttccaata ctattttta aaaaattgta tgatttacat atgaacctca gttctgaaat 3660 3720 tcattacata tctgtctcat tctgcctttt atactgtcta aaaaagcaaa gttttaaagt gcaattttaa aactgtaaat tacatctgaa ggctatatat cctttaatca cattttatat 3780 tttttcttca caattctaac ctttgaaaat attataactg gatatttctt caaacagatg 3840 3900 tcctggatga tggtccataa gaataatgaa gaagtagtta aaaatgtatg gacagttttt 3960 ccggcaaaat ttgtagctta tgtcttggct aaatagtcaa ggggtaatat gggcctgttg 4020 tttagtgtct ccttcctaaa gagcactttt gtattgtaat ttattttta ttatgcttta aacactatgt aaataaacct ttagtaataa agaattatca gttatataat ttgtgtatat 4080 4140 acatatctag aagttctaca ttgcagggaa aacagatgga tatatattta atctttacca 4200 aaaagttttc ttagtagaga caacctgcaa gtcaataatg gatacagtta gtttctaatg ggtaaacaga agtatacgga tttccacaga attttcacac tgttttggat agctgggaat 4260 4320 tgggcataac aacactactt agtttgaggg ctctttcaaa gaaaagtatc aaagattcta 4380 tttagtactt tgcattacac ttttaatagg gaaaactact ggctttcaag tctagtaaag 4440 gaatggaaat tgaaaaatgg aaacttatta attcttcccc aaagcgaaag catactttta 4500 ttctcctgct ttcattgaca tgtggcaatt tccagggaag aggcttactg attattaaag 4560 cagtgtactt attgtaccat ctctttttca gaagtatgtg acgccatctc acttcaagta 4620 ctgtgataac ataactttct tacttttcca accaaagaca cagaaatccc agttcctctt 4680 ttcctctaat acaggctgta atgatttgat catcattgcc accgccaaaa gtaatttaac 4740 aaacacccaa ttttggaggc tgcaatacct acactaaaaa ggacaccaac caatgaggct 4800 tgtggcacat atcactacaa gcacctaata tatatttatc tatactgtat gatctcccag 4860 gtgtttctga actctaaatt tacagtagtg tattctgaga accttcaact aaatctcgag acgtaaaaac gatgtctgac atgcagtcag agcatcaaaa ttatttagtt ctgcagaatt 4920 4980 ccataaaaac aaaattgtaa ttattccaag tccgtagcct acttcatttt caagcaaaag agagcattta gctcccgcct gaaagttaat aaatctctgg tcagtgaaac caggtgtggt 5040 5100 tctggaaaga agccaggttc ctatggtaac ttcggatcgc catttaagtt gtctctcggc 5160 ctcctgctct gacgtcactt ccggtgttac ctgtgtcgtt accgggagct gtaaacaagg 5220 tgtgcaagca tctgaagagc tgccgggatg cagcagagag gagcagctgg aagccgtggc 5280 tgcgctctct tccctctgct gggcgtcctg ttcttccagg gtgagtgctc cggctggcta 5340 cgctccactt ccggccgggg ggttagggaa gatggtcgct tttccggttc cgggtagggg 5400 ggtctccaga aagcccccgc atagctctgg gaaggaagga gggagggagc gggacgttgg 5460 gacgatgtca tcaccaccc gttgaggata gttggtattt tgtcagtcct ttcctgagcc ttgggagett tttcacettg egtgaeetgt cattgtagtt tggtgatage atacttgatg 5520 gaaccacaaa gagctctggc tttgggggca cccggtgtta ttttgtggtg ttattatcag 5580 tggttgaccg ctgtcgtttg ggcgctgtat accctgatta gaaagaaaac ggttctagca 5640 ttcagtagtt tgccccagta gttttgggaa acaaaatcat gacagttggt aattttattt 5700 5760 tttgtaggtg attattgtag tctataaaat gaaatatttg ctagtcacag aagggatgtg atgtgattcg ttatagagaa gaatatcgat gaaaaagtaa ctgctttagc attttcataa 5820 cttttttaa tacaagaaag agcatataaa ttctgttaaa atttattaag taatatcaga 5880 agtagggtat tcacactgac attcacatct taaaattagg tgagttttgc tttcatataa 5940

```
ttttcaaatt gcataaattt caatccagcc taattacctt catcttaagg tacaattatt
                                                                    6000
tcctggattt tgtgtatgtg tgtcttcctg ggaaataaaa tattagtata tctagtatta
                                                                    6060
                                                                    6120
gagtgaattg ctaaatttat aaaatttcct tgagggtaat ggggatttct gaaagagata
                                                                    6180
tttaatatta tataaatata aagactttaa tataaagact tcagatgtcc taaatcttag
                                                                    6240
cagttaaggc tggaaagttt ttaactggtg actaatattc atgttgccag cacacccccg
atccctccca gctgcctgtg tcatcataag tctccagttt ttaagctaaa ttactttgca
                                                                    6300
gtatgatatt taggctggcc tactgtcact cctaataaac ccagtcctct ctctctct
                                                                    6360
ttcacacaca cacacacaca cacacacaca cacgagaaat attcaaatat tgtcttattg
                                                                    6420
agaaaaaaaa tctggaaatg gtgttttctt aaatctaatg tcatgttgct ttgaagagca
                                                                    6480
tctgtcaagt ccagcagacc atataattca atcaaacatt taaagttgat tttacaatct
                                                                    6540
                                                                    6600
ctatgtactt gtggaataga ttttttgcct tttaaaaaat aactggtggc agggtgtggt
                                                                    6660
ggttcttgcc tgtaatccca gcactttggg agaccgaggc agctggatca cctgaggtca
                                                                    6720
ggagttcgag accaggctga ccaacatagt gaaactccgt ctctactaaa aaatacaaaa
                                                                    6780
aaaattagcc aggcgtggtg gcgggcgcct gtaatcccag ctactcggga ggctgagaca
                                                                    6840
ggagaatcgc ttgaacccag gaggcagagg ttgcagtgag ctgagatctc gccattgcac
tctagcctgg gcgacaagag agaaactccg tctcaaaaaa caaaacaaa aacaaacaaa
                                                                    6900
aaagaaacaa ctggtttatc atattattca catgccatac aatttactgt cttaaagggc
                                                                    6960
                                                                    7020
ataattgaat ggtttttagt atattcacag ttatgcaata attaccacta tcaattttag
                                                                    7080
aacattttca tcaccccaaa gagaaacttg atacccatta acaatcactc ctcactctcc
                                                                    7140
atttccctta gcccctggca accaccagtc tatttttttg tatctattga tttgcctatt
                                                                    7200
ctggacattt catataaata gaataatatc tgtaatccta gcactttggg aggccgaggt
gggtggatca tttgaggtca gaagtttgag accagcctgg ccaacgtggt aaacacccta
                                                                    7260
                                                                    7301
<210> 12727
<211> 115
<212> DNA
<213> Homo sapiens
<400> 12727
gggcgcggtg gctcacgcct gtaatcccag cactttggga ggccgaggcg ggtggatcac
                                                                      60
gaggtcagga gttcaagacc atcctggcca atatggtgaa accctgtctc tacta
                                                                     115
<210> 12728
<211> 114
<212> DNA
<213> Homo sapiens
<400> 12728
cacgcctgta atcccagcac tttgggaggc cgaggcgggt ggatcacgag gtcaggagtt
                                                                      60
caagaccatc ctggccaata tggtgaaacc ctgtctctac taaaaataca aaaa
                                                                     114
<210> 12729
<211> 13928
<212> DNA
<213> Homo sapiens
<400> 12729
                                                                      60
acaagagaga gcccagagct tacgtttgag aactatacgt tcttcatcca ttagttatag
tcaagagtct ggagcagcag gtatttatgt ctaattttt ctaataaaat atttgacaca
                                                                     120
aaacactagt tattttaact ttttaaagtt aagtatteet gtttteettt cacttgeega
                                                                     180
aagtgttttt aagtgcattt ctatcccaga agcactcatt ctttcctatg gaagaaagtg
                                                                     240
                                                                     300
gttctgaaat tagaaagatt atactgtcca ggaaaaaagg aagtgttgtg atgatttata
taactgatag ccaaagatag tctgaaactg ttgattataa aggtatctgt ccaggtatgg
                                                                     360
tagctcactc ctgtaatccc agtactttgg gaggctgagg cgggccgacc acttaaggcc
                                                                     420
aggagttcga gaacggcctg ggctacgtgg tgaaacccca tctctactaa aaataattta
                                                                     480
tattcctgcc agcagtgtat tgagataatc atgtacttta tgctactaga aaaaaagtca
                                                                     540
catgaaattt taacacagaa tgttcgacat ttaatacttt tgtaacataa atgttttttt
                                                                     600
```

```
660
atacttgttt gctgattgat ttgcttctct ttcctaaaga tttgtggaac tcagtagtat
tagtgttaat ttgtaggtat gggtccagaa gcaattcaga gaggacctga atatacctaa
                                                                      720
actgttccct gaagagtcag cagtagccat tgggtagttc acttggaaat gatattcctc
                                                                      780
tcctccaagt tgggggtgtg tatttattgg tcacagaaca cacagtcata cagagcaaga
                                                                      840
gagaatgact ctggaatcag actgcctgaa ttcaaatccc acattctcta cttactccgt
                                                                      900
                                                                      960
gagcaatcct gagcaagtta cttgtctcat ctttaaaata aagatactgg ccagtcacgg
                                                                     1020
tggctcatgc ctgtaatccc agcactctgg gagtctgagg caggcgaatc acttgagatc
aggggttcaa gaccagcctg ggcaacatgg tgaaaccctg tctccactaa aaaaatacaa
                                                                     1080
aaattagctg ggcgtggtgg cgggcgcctg taatccccag ctactcggga ggtgaggcag
                                                                     1140
qaqaatcact tgaacccagg aggcagaggt tgcagtgagc cgagattgtg ccactgccct
                                                                     1200
ccagcctgga tgacagagtg agactccatc tcaaaaaata ataatgatga taataataaa
                                                                     1260
ataaagatac taataatgct tatgtccata tagttgaaat agttcctggc tcatagtaag
                                                                     1320
                                                                     1380
tgcttttgct atatgaggta ggggacctta gagaaaccac agtcactttc tagagattta
                                                                     1440
agtatgtctg ggctatcatt aaattaaaaa acgacagaaa tggcttttat tattttttaa
                                                                     1500
aataaatcat gatttagtta tooaaatgaa tattggtott cotcaacgta gtcaccatgg
gagtttttgt gtttatttca gcagtgcttc cctggaatgc ctcattggca taacttttag
                                                                     1560
gatatgtcag cttagtatca gtttgatttc tgagaatgac taaaagttgc tttagagcca
                                                                     1620
agtctagcag ctagagtatc ataccaggtt ggattattgg tttggtatag atgcaaagta
                                                                     1680
                                                                     1740
agatgtgact atatgatcat gagtgatttt tcttttatct aaaggagctt tgagggtaat
                                                                     1800
tatgaaagaa aaccttacca aatgctttta gccgaacaat aacattgttg gaataaatag
                                                                     1860
tctcaaggcg attgttttaa aaaaaaactt catttggaat ttgttccatg tttgtttaaa
aatcttggct gggcgcaatg gctcacacct gtaatcccag cactttggga ggccaaggca
                                                                     1920
ggaggatcgc ttgagcccag gagttcgaga ccagcctagg caatgtggcg agactccttc
                                                                     1980
                                                                     2040
tctacaaaaa atttaaaaaa ttagccgggc gtggtgatgg gcatctctgg tcccagcaag
                                                                     2100
ccaggaggct gaggtgggag gatcgtttga gcctaggaag tcaaagctgc aatgaaatat
gattgtgcca ctgcactcca gcctgggtga cagagtgaga ccctgtttcc aaaaacaaga
                                                                     2160
                                                                     2220
ggaagaatta gaaatgcagt gagggctggg cgcagtggct tatgcctata attccagcac
tttgggaggc caaagcggcc agattgcttg agctcagaag ttctaaaaact tcaacagcct
                                                                     2280
gggcaacatg gtgaaatccc gtctctacta aaaatacaaa aattagccag gcgtggtggt
                                                                     2340
gtgcatctct agtggtgtgt gccagctact tgggagattg aagtggagga ttgcttgacc
                                                                     2400
ccaggaggtg gaggttgcag tgagctgcca ttgtgctact gcatgctagc ctgagcgaca
                                                                     2460
                                                                     2520
gaacaagacc ctattaattt aaaaaaaaaa aaaagtgtag tgaacttggc ttctcgcaga
ctcgtagaaa gttaaaaagg aagctaccat ctaaatggtt ttattattat tccagatatt
                                                                     2580
ttggtattgt tttctgtatc atgatagtct aaaaaactag ttttactttt aatattaatt
                                                                     2640
ggtataataa ttagttgttt tttttcccca gtcactgaag atgtgtgctt agttacataa
                                                                     2700
agtacattaa tatttgtgtt tataaaataa tacaatattt atagtataat gtttatatat
                                                                     2760
                                                                     2820
gtgtttaaat tgtgacagca ctgcatccac ttgaggctct tttttatagc tactaggagg
tttaggcact tggagttaaa ttttaaatga accacatatt tttcattttt gttaatgtag
                                                                     2880
ttttcccatt ttatgcaaat aaaatattta attggctctc cactcctgcc tctgtcccct
                                                                     2940
taccgctacc accctaagag attatcattg ttaacatttg aggacatggt gttttgtaac
                                                                     3000
ctgttgtttt ttcttaatat gacaatggcc catattttag cagtaaacaa aaagatacag
                                                                     3060
aagatgaaag cttagccaaa cactgtaaat agaaatggga agctttttca tatcggggaa
                                                                     3120
                                                                     3180
cggtggctta attgattctt ggggaatggg ggatcaacta accataaaca atttcattta
                                                                     3240
ggatttttgc atcatgaggg tatttggaga gaaatatatc atcctataat gtgcacagta
agtttttcct aatttgttgc tttgaggaaa gacacaaagc aaactaaaca gcctttcata
                                                                     3300
gataaataag tatacagaga gtgaaagata tgggtacaag tatatagaga cctatcaaaa
                                                                     3360
atacattgct tgtggtatta attctcatgt gtgattttag catattaaaa ggctgttttg
                                                                     3420
tgtttttaga accataagaa taaatgggga tgttaccttt cagtttgttc caaagattgc
                                                                     3480
atgcatcatt accaaagctt gagtcttttt actcccctgt cttgttgaga tacctactac
                                                                     3540
                                                                     3600
ttgagcatac tctggaatga gaaagtttat cgattaacat gctgcttacg cagataggat
tagcatttcc ttaatttagt ataccacgtg ttgtatcagg cataaaagcc agcttttttt
                                                                     3660
                                                                     3720
agtcataccc caatgtttaa aattgttaaa tgcagacttc atgttctttt gatcatttaa
atcatgacat ggatattttt aatttttata ttctagtaat tatcaattgt cctggtctgg
                                                                     3780
ctgcttagag tatcagtttg ctcaaaattg cttgaatcat taaagcaaat actaattgtg
                                                                     3840
agcattgacc agatettaag ttaaaaaaaa aaaaaaagca tetttggtee tagaagaagt
                                                                     3900
                                                                     3960
qctaaqqaaa cctgaattaa ctgataaagc acaggtaaag tttgaccata aaacttgtag
aaagaatgga atatagctta atgcttataa tgtaagacat tggaacaaat acttaaattc
                                                                     4020
                                                                     4080
agtggttagc actataaata tcttttctta actgtgagta gttggaaaat atagctggct
                                                                     4140
aatagtaatt acaagttact atttaaacag atgccaacat gcaaagtagt tgtataattt
tcctaaagtt atgttacact tgattttaac ttgacgccat tgtgcattgt aaccatatta
                                                                     4200
ttatacaagg agcatagacc aacaacagtt gagtaaatgg gtgaataaat gaataaaaag
                                                                     4260
```

```
gataaacaca actaatttaa aagtcatgag cataactaac aatgattgct tttattctga
                                                                   4320
aactgttttc catggtttat aacgttcata gccatatgac ccttccttaa tctcttcctt
                                                                   4380
                                                                   4440
ccttccttgt attttgggta ctgattcttt gcaaggtcca tctctctttt gtgtgaagta
                                                                   4500
aaatactggg aaaaggctgc ttttctaaag atacctgttt tgctattttt atagtgctta
                                                                   4560
taactgatgt aattagaaga aataaattca tagtgctttg gatatagcac ctcagattaa
                                                                   4620
tatcaaattg tcacctcctg ttagtgttca ttcactaaag gaatagtgta cagaacgtgt
                                                                   4680
acatttgaat taagggaaga tggttagaaa agttctggaa ccgggaacta ccattcagaa
gacttctatg ggaccaggac aaagacaaac tttacgtagt tcacaatttg cctagagctg
                                                                   4740
tccttgattc tcctttctct ttttattctt tttttattct ttgttctcat tgttttacta
                                                                   4800
ctatgtttta aaaatgttta taacttgata ttttaatgta aagtatgttt tcttagaagg
                                                                   4860
gaagaaaaaa tgctttatat actaaaaaca gcaggctgaa gctataagtt aacaaactac
                                                                   4920
                                                                   4980
atcttaagat tttttgacag tgctacaatt ggtaaactgc tagaagttat ttttagacca
                                                                   5040
gttttatgta cttaatagat ttctctgtgt tcccaatagc tgatgatata aagccatgtc
                                                                   5100
cacgatgtgc tgcttatata ataaagatga atgatgggag ctgcaatcac atgacatgtg
ctgtttgtgg ttgtgagttt tgttggttgt gtatgaaaga aatctcagat ttgcattatc
                                                                   5160
taaggtaagc ttatagaagg agctatttat atgtaaatgt aattttatat tgtaagacaa
                                                                   5220
aataacttgt cttaaatttg ggttttataa gatacttaaa gggattggtt ttattctagt
                                                                   5280
taaataaatt taaaagaaac caagttatta tgctagtcat ttggaattaa taactagtca
                                                                   5340
                                                                   5400
aaataggaaa tggatatttc ctttttttgt ttttgttaaa ctagaatgct agtaagtatg
taataccctg tgtaattatg ctagacccat aaatactttc atttaatttt cccatacata
                                                                   5460
                                                                   5520
aattttatca tttaggcaca gagtgagttt atgatataat cagataattg atgcctaaaa
atatgcatgt tttgcattag tttactatta aaaaactgac ttaagggttt gaggataatg
                                                                   5580
gaggactagg gataaatttt taacctgaat ctcagttatc agtatcttgt taatataatt
                                                                   5640
tacagtggtt cttaccttat acttcattga attttcccat acataaattt tatcgtttag
                                                                   5700
                                                                   5760
gctacagagt gagtttgtga tataatcaga taattgatgc ctaaaaaatat gcatgttttg
                                                                   5820
cattaattta ctattaaact gacttaaggg tatgagggta atggaagact agggataaat
ttttaacctg aatttcagtt atcagtatct tgttaatata atatagatta aataataaaa
                                                                   5880
                                                                   5940
tataatataa aataagatat atcaatatct tgttaatata atttatagtg gttcttacct
                                                                   6000
tagtttaatg aactcagaat ttaaagggga aaaaagctcc taactatgag aagtttttaa
                                                                   6060
aaatagtcat tgttttaata tagtgcacta atttgttatt gtggtgtttt gcagcagtta
                                                                   6120
tttacattat aatttttcc gttagtccat caggatgtac tttttggggg aagaaaccct
                                                                   6180
ggagccgaaa gaagaaaata ttgtggcaac tgggaacact ggttggtgct cctgtcggaa
tcgctttaat agctggcatt gctattcctg caatgattat tggcattcct gtgtatgtgg
                                                                   6240
                                                                   6300
gccgcaaggt aaaatgcata cttcttgtta gtccattatc ttattctaaa tctttaggtg
6360
atctttagtt tcttcagtat aaaacagtta ctcttttttc ataaattttt agtgtttggc
                                                                   6420
                                                                   6480
aagcatatat aaatacgtat aaagcagact tgctttaaaa tgttctgaat ctgaaaattt
tagtatgttt gtattataaa actttgagta taaaatattg aaggatacac acctgagatt
                                                                   6540
                                                                   6600
tttctcatag gtatatcctt gtaaggtcag gtctatgaga tctttttaat gaaagttaat
                                                                   6660
agctaaataa cacatgccct caggcaaaga ataattagcc agttcttgaa ttatttctgc
                                                                   6720
tgtagttcaa agcttttttt ttggattact gcttttaata aatacactat tttgcaaatt
                                                                   6780
ataacaatct tgtgaaagtc caaacaccag tgactaccac tggcctctaa ttgatgaatt
                                                                   6840
atatttcatt agctaagcaa atagttcttt tgttaagggt taatgggata atttatgagg
tcctaagaag tctgttgttg cctaaattaa tagaatctct ggattgagaa gtaactttca
                                                                   6900
gtagaatata gctaaaagaa aaaaaaaaga aattttcttt ggtatccaag aagatcaaaa
                                                                   6960
aaattaaaac tttttttaaa aaataaaaag aaattaatcc caaccttgta cccaagcaga
                                                                   7020
                                                                   7080
7140
taatcttagc actttggaag gctgaggctg gtggatcatc tgaggtcagg agttcaagac
                                                                   7200
cagcctggcc aacatggtga aaccccatct ctactaaaaa tacagaaaaa attagccagg
                                                                   7260
catggtggca ggtgcctgta atcccagact cgggaggctg aagcaggaga atcacttgaa
cctgggaggt ggaggttgcg gtgagctgag attgcaccat tgcactccat cctaggcaac
                                                                   7320
                                                                   7380
aagagcaaaa ctccatctca aaaaaaaaaa aaaagaacta acaagctggg catggtggct
                                                                   7440
tactcctgtc atcgtagcac tttgggaggc tgaggcagaa ggatcacttg aggctgggag
                                                                   7500
ttcaagacca gcctggacaa catagtgaga ccccatctct caaaaaaatt taaaaattat
                                                                   7560
ctgggtatgg tagtatgcac ctgtagtccc agctacttgg gaggctgagg tgggaggatt
                                                                   7620
gcttgagatg ggcaagtgga ggctgcagtg agctgtgatt gtgccacttc actccagcct
gggtgataga gcaagatcct atctctaaaa taaaaaaagg atctaaaggt tgtcatactg
                                                                   7680
                                                                   7740
tgtcataggt gttgtatgta cttttactta ttttaaccct gcagcaacct cgatatttcg
                                                                   7800
gtctctgtgt gttaaaatat tgagatttag gaaagtttat gtaatatatc ttcagttaca
cacaaagaag cagagctgag atttgaactc agatgcatga attcttaata taagttccat
                                                                   7860
                                                                   7920
gattaagttt cagtagctat ttgggaactc agtcatgggg aaaccaccaa ctcatgaagc
```

7980 aatccattct gttgtaaaat ggctactaat tgttacaaaa ttgttacgtt tgagtcagat 8040 ctgtttcctt ttgtttcctt tatttctgtt tctaacttct gggacccgac tgggaataag gttgatcttc ttctgtaaaa cagctgaatt ttttatattc aacatacatt ttataatcag 8100 8160 aaaaataata tatactattt cttaaaaatt agttttgggg ctgatgacaa acatatttat 8220 aagtcacata tttatttctg aaggttttaa gtgagtaaac ctggacttta aaaaatgttg 8280 ggccatgtgt ggtggctcat gcctgtaatc ctaacacttg gggagggtga ggagggagga 8340 ttgcattaat ccaggagttt gagaccagcc tgggcaacac agtgtgacac cttgtctcta caaaaaacta aataatcagc tgggagtggt ggtgcatgcc tgtagccccc gctattaagg 8400 8460 aagctgggat gggaggattg attgagcccg tgaggttgag gctacagtga gctgtgatcg tgccactgca ctctagtctg agcgacacag agagacccta tttccaaaaa agagagaaaa 8520 8580 aataaaaaat ttcaaaatat attagctgat cgtaattttt catgtagtta ttcaaagcaa ggctttgctg aaaacaaaac tattcagata cttagaaggg aaagagagac tgttgtacca 8640 8700 catgtaccta taaatcattt atagagaaga gattatttac ctcattgttc aggtcatagg 8760 gtacagttac agateteett ttttcaaaca tgtacecaaa gggttgtaaa tgaatgaatt 8820 agttttccat tgaaataata ttctgtggtg ctttgggatc ccaaccagcc taggaaaacc tgctaagtca ataaagtacc caaaagctga gccttcactt aacaataaaa agtagagaat 8880 8940 gtggcaaaaa atagtaaaca gaaaaattaa gttgaaccag aaatagtggg ataatgtgat 9000 cactaatcaa acattggtgc ttgaggctga aaaattttct agaagactcc tttctcttgg cagcctgcct ttgcaagtct gctccatcag ttgtgccttt tctcttcttc agtgctaagt 9060 9120 ttcccaggaa tgggagtggg gaggagcagg aattagctgc agtgctgaag gataatgaaa 9180 ggtaccttgg gaaggtctac catctctgcc tgcatggact gtgtagggaa gtgaggaggc 9240 tcattgacaa ggaacctcta gtcaatgctg ggaaatggga ttctgactag gaaatagaaa 9300 ggtttcttgt cccatacatg catcacccac ctcccacccc aacctttcta ctgttttcca 9360 caacactcat cgtactttac agccttccaa aggccaaagg tgttattata ccatgtaata 9420 atagattatt ttataagtcc catctgtagt attgtttata agtcatttta ttttagagag tccccatact tttgaggctg ttttgaattt gttttggaac agagggggaa aatgtgccat 9480 attagccctt gcaaaccatg aaaataaaga tctcaaagtt catataattt cacaagccag 9540 tttttaatca ccgcttctat gatgatatca aattctactt attaacacct gtcctgtaca 9600 gagattgctg agtgaattca atcctgtctt ctggtagcca ttatttatca tctttttct 9660 ttctctgcca tttactttga gctataaatg agagccctgg aatttgagtc atttgtcaat 9720 attgtcttca taaaaaggat ctgagaaaaa aataatactg tttattcata cttgtttatt 9780 agaactgctt tttaaggtca atttttaaaa agaaaccttc cctagaagcc aatttttacc 9840 atttagagaa tattctttag aaagaaacct ttagaatgct ggaagtatcc tgttggtgaa 9900 ccatgtaact cataactgtg ttgaaaataa taatcttaat ttcttcctct ttgctcgata 9960 cataattaca ctacttttga ttaagattat aaagatgact tttactcaga acttttaagc 10020 acaaagtaaa atccattaaa tcactgtctt aagcaaatta ataaggagca aattatttgt 10080 gagaatatat aatagtttaa ggacactagt aggtttacct tgaactaaga tactcagcta 10140 cgaacttcta tgaaaaatca ctttagcaag tatagatctt tttcaactaa gttaaattgt 10200 aatgtatttt ctctttaatc ccccacccct atttttatta attcaagatt cacaatcgct 10260 10320 atgaaggcaa ggatgtttca aagcacaaac ggaatttggc catagcaggt ggtgtaacgt tgtctgtaat cgtgtctcca gtagtagctg cagtgactgt aggtaagaaa atgctgaaaa 10380 gtactaatta cctacaattt tatggagtta aagttttgtg gaaggatttt ttttaattgt 10440 tttttaattt gaggacaatt taaattgagc ctgcagtaag tcttggttga aagtattaca 10500 gattcaagag cctagcctta aagtagttgg taaattgtta gtggctgata cccttcctcc 10560 ccactccacc ccaagtacag ttcggaggcc tggcacttca aaagaaaaaa gtttgcatct 10620 ctctcttttt ccccttatgt gcattacctg aaaggctggg aaccttgaat ttgcttaaca 1.0680 actgggtaaa tctacttttg gcaaatgttc cagccaactc ttcagaaccc tggcgctttt 10740 ctctgtatga ctctcttgaa aagactttct aaaactcatg tttctgtgag ttattttgtt 10800 gttgttgttt gtaatgactg atttaatttc tctttaggta tcggtgttcc tattatgtta 10860 gcttatgtct atggcgtagt tccaatttct ctttgtcgaa gcggaggttg tggagtctca 10920 gcaggcaatg gaaaaggagt taggattgaa tttgatgatg aaaatgatat aaatgttggt 10980 ggaactaaca cagctgtagg taagtccttt aagcaaagga agaaaatgtg cttattaaca 11040 gtgtaagtag tggggaggcc agagataaca tgcaactcag aatttccatt gccatccttt 11100 11160 tactaggcct aatagtattc attcagaagt acataagtga ataaactgcc aaggaggagt 11220 gtatggatga aagaggtggg ggtaattctg ggtatctgac ctctaattgg aatataatgt 11280 cttagaaatc ataaactttt catcttaaat tttgcctgaa acattataaa taactaagta aaggatatga agaggaatac agttaataaa agaaatacgg atgaccaata atacaaaaat 11340 11400 atcttcaact caatgttatt caaagaaatg tgaattagaa cagtaacgag caaagattaa 11460 gaagaataaa aaagccttca tagactgcct ataggagtat gtcaataaac cttttttaaa aagtgcatgt tctatattct agcaattctt gttttagaaa tttgtcatag ggaaataatt 11520 aggcagatgt gtaaagataa tgcctacttt cttacctctt attttctctt gaactggcct 11580

```
caatcagatt tttgtcccta ccactccaga attttatttc tgctattcac tgaagcagag
tcaccagtgg cctccacgta acctaataca gtggtcaggt cttggtcctc atcttaacag
tatatccgac atggtagaga ctctaccctt cttgaaatac ttcacttttc ttatgggaaa
ccacttetta ccatatttee tggccagtee gteteattaa tetttgetgg tteatttee
tcttctgacc tctaaatgtt tgttccccag agctcagttc tcagaattct tatgtatcta
cacttttccc ctaatctcat ctattaaata atgcatagac cgacctctcc cctgaacttc
aaacttgcat gtgtaacttt cctctttaat ctgcacttga gtgtctaaca agaatttcaa
gcttaacttg tctacagcca aattcttggc tctaaaatct cttcttccct tcatcctcct 12060
taactcaata agtagcttct ccattcctcc tgttgcttgg gccaaaaacc ttcacttaac 12120
aatgcctccc tcttttccct cttgtcctac atctgattga tctgtcagca aattctgctg 12180
cttccttcaa tatttagcca taatccagcc acttcttact ctcttcgttg tccttccctt 12240
agtccaagct accatcctct ttcctgggct attgtaatag cctcttaact gctgtatcaa 12300
cttctcagct tctattcact agtccatagt gcagccatag tcacatgtct aaaccctgtc 12360
agattataac tttcttatgc tcaaaacttc cccagtggct tctaactgta ctggggaaga 12420
aaatccaaag teettateat ageccaaaag geeccaeatg atetgeecca aetatgtete 12480
tgagctcatc tcttgtcacc ctcttatttt ataccactct tgcttgattt ttgagggtgc 12540
caagcattat cctacttcta ggcttttaaa ctggcagttc tctgtctgga atactctttc 12600
cctagaaaat ttcatgactc actgttttac ttcatttgtc tctacaagta ttaccttatc 12660
aaagaggeet tetgteatea eateatataa aatggeteae agacatgtae gtacatgeae 12720
ttttcatcac tctcctccc tttactctct tgtatttttc ctcatagcat ttgtcaccgt
gtgattgggt atataatagg aactcaaata ttggtgcaaa taagtgactc cttaatacaa 12840
aatgtgtgag aggtactgta aaattggaac atagtgttat cagatcttaa taatagcttg 12900
tagacagaac tgtggcatat atctagaaat caacttttag cctattctta ctgacctaga
gaataataag ctctttaaat gacaccctta atgaaaactg tcacataatt ttcctctaaa 13020
gtcagcgata ttttttaaca atcatattct ttatagaatt cctaaatctg ggtttttgaa
aaaagaaact agtgaccatt taaaattgtt ggctctattc ccactgcttc tagtggacta
gcctgaaaaa aatattttc catgtctgcg tatattttat accttatata atgtcctctc
                                                                   13200
                                                                   13260
tgaaatcatg gaggaattta agaaggagaa aattgataat catacttact tagtttcttt
                                                                   13320
ggaatatttg catttagaca caacatcagt agcagaagca agacacaacc caagcatagg
ggagggaagt gttggtgggc tgactggcag tttgagtgca agtggaagcc acatggatcg
                                                                   13380
                                                                   13440
aataggagcc atccgagaca acctgagtga aacggccagc accatggcac tagctggagc
cagtataacg gggagtctgt caggaagtgc catggtaaac tgttttaaca ggtgtgtgtt
                                                                   13500
ttggtttggt ttggttctgc tttctggtaa ctacaaatta ttaattaggt gagaattttg
                                                                   13560
aacataaagc atgatgatta tatataaccc tactatgtca aggttcaaaa tagtaatgtt
                                                                   13620
aaaaatgaaa tttggggcca ggtgcagtgg ctcacgcctg taatcccagc atgttgggaa
                                                                   13680
gccaaagcag gtggattgcc tgagctcagg agttcgagac cagcctgggc aacatggcga
                                                                   13740
                                                                   13800
aaccccatct ctactaaaaa aatataaaaa attagccgga tttggtggca tgcacctgta
gtcccagctg gtcgggaggc tgaggtagga ggatcacttg agcctgggag ttggaggctg
                                                                   13860
cagtcagcca agatcacacc actgagctcc aacctgagtg acagtgagac cctgtctcaa
                                                                   13920
                                                                   13928
aaaaaaaa
<210> 12730
<211> 10956
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (5272)
<223> n equals a,t,g, or c
<400> 12730
                                                                      60
acaagagaga gcccagagct tacgtttgag aactatacgt tcttcatcca ttagttatag
tcaagagtct ggagcagcag gtatttatgt ctaatttttt ctaataaaat atttgacaca
                                                                      120
aaacactagt tattttaact ttttaaagtt aagtattcct gttttccttt cacttgccga
                                                                      180
aagtgttttt aagtgcattt ctatcccaga agcactcatt ctttcctatg gaagaaagtg
                                                                      240
                                                                      300
gttctgaaat tagaaagatt atactgtcca ggaaaaaagg aagtgttgtg atgatttata
taactgatag ccaaagatag tctgaaactg ttgattataa aggtatctgt ccaggtatgg
                                                                      360
tagctcactc ctgtaatccc agtactttgg gaggctgagg cgggccgacc acttaaggcc
                                                                      420
aggagttcga gaacggcctg ggctacgtgg tgaaacccca tctctactaa aaataattta
                                                                      480
```

tattcctgcc	agcagtgtat	tgagataatc	atgtacttta	tgctactaga	aaaaagtca	540
catgaaattt	taacacagaa	tgttcgacat	ttaatacttt	tgtaacataa	atgtttttt	600
atacttgttt	gctgattgat	ttgcttctct	ttcctaaaga	tttgtggaac	tcagtagtat	660
tagtgttaat	ttgtaggtat	gggtccagaa	gcaattcaga	gaggacctga	atatacctaa	720
actgttccct	gaagagtcag	cagtagccat	tgggtagttc	acttggaaat	gatattcctc	780
tcctccaagt	tgggggtgtg	tatttattgg	tcacagaaca	cacagtcata	cagagcaaga	840
gagaatgact	ctggaatcag	actgcctgaa	ttcaaatccc	acattctcta	cttactccgt	900
gagcaatcct	gagcaagtta	cttgtctcat	ctttaaaata	aagatactgg	ccagtcacgg	960
tggctcatgc	ctgtaatccc	agcactctgg	gagtctgagg	caggcgaatc	acttgagatc	1020
aggggttcaa	gaccagcctg	ggcaacatgg	tgaaaccctg	tctccactaa	aaaaatacaa	1080
aaattagctg	ggcgtggtgg	cgggcgcctg	taatccccag	ctactcggga	ggtgaggcag	1140
gagaatcact	tgaacccagg	aggcagaggt	tgcagtgagc	cgagattgtg	ccactgccct	1200
ccagcctgga	tgacagagtg	agactccatc	tcaaaaaata	ataatgatga	taataataaa	1260
ataaagatac	taataatgct	tatgtccata	tagttgaaat	agttcctggc	tcatagtaag	1320
tgcttttgct	atatgaggta	ggggacctta	gagaaaccac	agtcactttc	tagagattta	1380
agtatgtctg	ggctatcatt	aaattaaaaa	acgacagaaa	tggcttttat	tattttttaa	1440
aataaatcat	gatttagtta	tccaaatgaa	tattggtctt	cctcaacgta	gtcaccatgg	1500
gagtttttgt	gtttatttca	gcagtgcttc	cctggaatgc	ctcattggca	taacttttag	1560
gatatgtcag	cttagtatca	gtttgatttc	tgagaatgac	taaaagttgc	tttagagcca	1620
agtctagcag	ctagagtatc	ataccaggtt	ggattattgg	tttggtatag	atgcaaagta	1680
agatgtgact	atatgatcat	gagtgatttt	tcttttatct	aaaggagctt	tgagggtaat	1740
tatgaaagaa	aaccttacca	aatgctttta	gccgaacaat	aacattgttg	gaataaatag	1800
tctcaaggcg	attgttttaa	aaaaaaactt	catttggaat	ttgttccatg	tttgtttaaa	1860
aatcttggct	gggcgcaatg	gctcacacct	gtaatcccag	cactttggga	ggccaaggca	1920
ggaggatcgc	ttgagcccag	gagttcgaga	ccagcctagg	caatgtggcg	agactccttc	1980
tctacaaaaa	atttaaaaaa	ttagccgggc	gtggtgatgg	gcatctctgg	tcccagcaag	2040
ccaggaggct	gaggtgggag	gatcgtttga	gcctaggaag	tcaaagctgc	aatgaaatat	2100
gattgtgcca	ctgcactcca	gcctgggtga	cagagtgaga	ccctgtttcc	aaaaacaaga	2160
ggaagaatta	gaaatgcagt	gaggggccgg	gcgcagtggc	ttatgcctat	aattccagca	2220 2280
ctttgggagg	ccaaagcggc	cagattgctt	gagctcagaa	gttctaaaac	ttcaacagec	2340
tgggcaacat	ggtgaaatcc	cgtctctact	aaaaatacaa	aaattagcca	ggcgrggrgg	2400
tgtgcatctc	tagtggtgtg	tgccagctac	ttgggagatt	gaagtggagg	actgerryac	2460
cccaggaggt	ggaggttgca	gtgagctgcc	attgtgctac	cgcatgctag	attatagaaa	2520
agaacaagac	cctattaatt	taaaaaaaaa	aaaaagtgta	gigaacitgg	ttggagatat	2580
actcgtagaa	agttaaaaag	gaagetacea	taaaaaggt	atttactt	taatattaat	2640
tttggtattg	ttttctgtat	tttttagg	agtgagtgaa	getetacee	tagttagata	2700
tggtataata	attagttgtt atatttgtgt	ttataaaata	atacaatatt	tatactataa	tatttatata	2760
tatattta	ttgtgacagc	actocatoca	cttgaggctc	tttttatag	ctactaggag	2820
cgtgtttaaa	ttggagttaa	attttaaata	aaccacatat	ttttcatttt	tattaatata	2880
gtttaggcac	tttatgcaaa	taaaatattt	aattggctct	ccactcctgc	ctctatcccc	2940
ttaccactac	caccctaaga	gattatcatt	gttaacattt	gaggacatgg	tgttttgtaa	3000
cctattatt	tttcttaata	tgacaatggc	ccatatttta	gcagtaaaca	aaaagataca	3060
gagatgaaa	gcttagccaa	acactgtaaa	tagaaatggg	aagctttttc	atatcgggga	3120
acagtagett	aattgattct	tagagaatag	gggatcaact	aaccataaac	aatttcattt	3180
aggatttttg	catcatgagg	gtatttggag	agaaatatat	catcctataa	tgtgcacagt	3240
aagtttttcc	taatttgttg	ctttgaggaa	agacacaaag	caaactaaac	agcctttcat	3300
agataaataa	gtatacagag	agtgaaagat	atgggtacaa	gtatatagag	acctatcaaa	3360
aatacattgc	ttgtggtatt	aattctcatg	tgtgatttta	gcatattaaa	aggctgtttt	3420
gtgtttttag	aaccataaga	ataaatgggg	atgttacctt	tcagtttgtt	ccaaagattg	3480
catgcatcat	taccaaagct	tgagtctttt	tactcccctg	tcttgttgag	atacctacta	3540
cttgagcata	ctctggaatg	agaaagttta	tcgattaaca	tgctgcttac	gcagatagga	3600
ttagcatttc	cttaatttag	tataccacgt	gttgtatcag	gcataaaagc	cagctttttt	3660
tagtcatacc	ccaatgttta	aaattgttaa	atgcagactt	catgttcttt	tgatcattta	3720
aatcatgaca	tggatatttt	taatttttat	attctagtaa	ttatcaattg	tcctggtctg	3780
gctgcttaga	gtatcagttt	gctcaaaatt	gcttgaatca	ttaaagcaaa	tactaattgt	3840
gagcattgac	cagatettaa	gttaaaaaaa	aaaaaaaagc	atctttggtc	ctagaagaag	3900
tgctaaggaa	acctgaatta	actgataaag	cacaggtaaa	gtttgaccat	aaaacttgta	3960
gaaagaatgg	aatatagctt	aatgcttata	atgtaagaca	ttggaacaaa	tacttaaatt	4020
cagtggttag	cactataaat	atcttttctt	aactgtgagt	agttggaaaa	tatagctggc	4080
taatagtaat	tacaagttac	tatttaaaca	gatgccaaca	tgcaaagtag	ttgtataatt	4140

4200 ttcctaaagt tatgttacac ttgattttaa cttgacgcca ttgtgcattg taaccatatt attatacaag gagcatagac caacaacagt tgagtaaatg ggtgaataaa tgaataaaaa 4260 ggataaacac aactaattta aaagtcatga gcataactaa caatgattgc ttttattctg 4320 aaactgtttt ccatggttta taacgttcat agccatatga cccttcctta atctcttcct 4380 tccttccttg tattttgggt actgattctt tgcaaggtcc atctctttt tgtgtgaagt 4440 aaaatactgg gaaaaggctg cttttctaaa gatacctgtt ttgctatttt tatagtgctt 4500 ataactgatg taattagaag aaataaattc atagtgcttt ggatatagca cctcagatta 4560 atatcaaatt gtcacctcct gttagtgttc attcactaaa ggaatagtgt acagaacgtg 4620 tacatttgaa ttaagggaag atggttagaa aagttctgga accgggaact accattcaga 4680 agacttctat gggaccagga caaagacaaa ctttacgtag ttcacaattt gcctagagct 4740 4800 gtccttgatt ctcctttctc tttttattct ttttttattc tttgttctca ttgttttact actatgtttt aaaaatgttt ataacttgat attttaatgt aaagtatgtt ttcttagaag 4860 ggaagaaaaa atgctttata tactaaaaac agcaggctga agctataagt taacaaacta 4920 4980 catcttaaga ttttttgaca gtgctacaat tggtaaactg ctagaagtta tttttagacc 5040 agttttatgt acttaataga tttctctgtg ttcccaatag ctgatgatat aaagccatgt 5100 ccacgatgtg ctgcttatat aataaagatg aatgatggga gctgcaatca catgacatgt 5160 gctgtttgtg gttgtgagtt ttgttggttg tgtatgaaag aaatctcaga tttgcattat 5220 ctaaggtaag cttatagaag gagctattta tatgtaaatg taattttata ttgtaagaca 5280 aaataacttg tcttaaattt gggttttata agatacttaa agggattggt tntattctag ttaaataatt taaaagaaac caagttatta tgctagtcat ttggaattaa taactagtca 5340 aagtaggaaa tggatatttc ctttttttgt ttttgttaaa ctagaatgct agtaagtatg 5400 5460 taataccctg tgtaattatg ctagacccat aaatactttc atttatttc ccatacataa attttatcat ttaggcacag agtgagttta tgatataatc agataattga tgcctaaaaa 5520 5580 tatgcatgtt ttgcattagt ttactattaa aaaactgact taagggtttg aggataatgg aggactaggg ataaattttt aacctgaatc tcagttatca gtatcttgtt aatataattt 5640 5700 acagtggttc ttaccttata cttcattgaa ttttcccata cataaatttt atcgtttagg 5760 ctacagagtg agtttgtgat ataatcagat aattgatgcc taaaaaatatg catgttttgc attaatttac tattaaactg acttaagggt atgagggtaa tggaagacta gggataaatt 5820 tttaacctga atttcagtta tcagtatctt gttaatataa tatagattaa ataataaaat 5880 ataatataaa ataagatata tcaatatctt gttaatataa tttatagtgg ttcttacctt 5940 agttttatga actcagaatt taaaggggaa aaaagctcct aactatgaaa agtttttaaa 6000 aatagtcatg gttttaatat attgcacaaa ttttgttatt gtggtgtttt gcagcagtta 6060 tttacattat aatttttccg ttagtccatc aggatgtact tttggggggaa gaaaccctgg 6120 agccgaaaga agaaaatatt gtggcaactg ggaacactgg ttggtgctcc tgtcggaatc 6180 6240 gctttaatag ctggcattgc tattcctgca atgattattg gcattcctgt gtatgtgggc 6300 cgcaaggtaa aatgcatact tcttgttagt ccattatctt attctaaatc tttaggtgta ttcttttagt attgatgatt tttgggtttt ttttttttt tttttagaca aagggtatct 6360 6420 ttagtttctt cagtataaaa cagttactct tttttcataa atttttagtg tttggcaagc atatataaat acgtataaag cagacttgct ttaaaatgtt ctgaatctga aaattttagt 6480 atgtttgtat tataaaactt tgagtataaa atattgaagg atacacacct gagatttttc 6540 6600 tcataggtat atccttgtaa ggtcaggtct atgagatctt tttaatgaaa gttaatagct aaataacaca tgccctcagg caaagaataa ttagccagtt cttgaattat ttctgctgta 6660 gttcaaagct ttttttttgg attactgctt ttaataaata cactattttg caaattataa 6720 6780 caatcttgtg aaagtccaaa caccagtgac taccactggc ctctaattga tgaattatat ttcattagct aagcaaatag ttcttttgtt aagggttaat gggataattt atgaggtcct 6840 aagaagtctg ttgttgccta aattaataga atctctggat tgagaagtaa ctttcagtag 6900 aatatagcta aaagaaaaaa aaaagaaatt ttctttggta tccaagaaga tcaaaaaaat 6960 7020 taaaactttt tttaaaaaaat aaaaagaaat taatcccaac cttgtaccca agcagaacaa aggatagcaa ttttcaaaaa gggaactaac aggccaggtg cggtgcctca cccctgtaat 7080 7140 cttagcactt tggaaggctg aggctggtgg atcatctgag gtcaggagtt caagaccagc 7200 ctggccaaca tggtgaaacc ccatctctac taaaaataca gaaaaaatta gccaggcatg gtggcaggtg cctgtaatcc cagactcggg aggctgaagc aggagaatca cttgaacctg 7260 7320 ggaggtggag gttgcggtga gctgagattg caccattgca ctccatccta ggcaacaaga gcaaaactcc atctcaaaaa aaaaaaaaaa agaactaaca agctgggcat ggtggcttac 7380 tcctgtcatc gtagcacttt gggaggctga ggcagaagga tcacttgagg ctgggagttc 7440 aagaccagcc tggacaacat agtgagaccc catctctcaa aaaaatttaa aaattatctg 7500 ggtatggtag tatgcacctg tagtcccagc tacttgggag gctgaggtgg gaggattgct 7560 7620 tgagatgggc aagtggaggc tgcagtgagc tgtgattgtg ccacttcact ccagcctggg tgatagagca agatcctatc tctaaaataa aaaaaggatc taaaggttgt catactgtgt 7680 7740 cataggtgtt gtatgtactt ttacttattt taaccctgca gcaacctcga tatttcggtc tctgtgtgtt aaaatattga gatttaggaa agtttatgta atatatcttc agttacacac 7800

```
7860
aaagaagcag agctgagatt tgaactcaga tgcatgaatt cttaatataa gttccatgat
taagtttcag tagctatttg ggaactcagt catggggaaa ccaccaactc atgaagcaat
                                                                     7920
                                                                     7980
ccattctgtt gtaaaatggc tactaattgt tacaaaattg ttacgtttga gtcagatctg
                                                                     8040
tttccttttg tttcctttat ttctgtttct aacttctggg acccgactgg gaataaggtt
                                                                     8100
gatcttcttc tgtaaaacag ctgaattttt tatattcaac atacatttta taatcagaaa
                                                                     8160
aataatatat actatttctt aaaaattagt tttggggctg atgacaaaca tatttatttg
                                                                     8220
tcacatattt acttctgaag gttttaagtg agtaaacctg gactttaaaa aatgttgggc
                                                                     8280
catgtgtggt ggctcatgcc tgtaatccta acacttgggg agggtgagga gggaggattg
cattaatcca ggagtttgag accagcctgg gcaacacagt gtgacacctt gtctctacaa
                                                                     8340
aaaactaaat aatcagctgg gagtggtggt gcatgcctgt agcccccgct attaaggaag
                                                                     8400
ctgggatggg aggattgatt gagcccgtga ggttgaggct acagtgagct gtgatcgtgc
                                                                     8460
                                                                     8520
cactgcactc tagtctgagc gacacagaga gaccctattt ccaaaaaaaga gagaaaaaat
aaaaaaatttc aaattatatt agctgatcgt aatttttcat gtagttattc aaagcaaggc
                                                                     8580
                                                                     8640
tttgctgaaa acaaaactat tcagatactt agaagggaaa gagagactgt tgtaccacat
gtacctataa atcatttata gagaagagat tatttacctc attgttcagg tcatagggta
                                                                     8700
cagttacaga tctccttttt tcaaacatgt acccaaaggg ttgtaaatga atgaattagt
                                                                     8760
                                                                     8820
tttccattga aataatattc tgtggtgctt tgggatccca accagectag gaaaacctgc
                                                                     8880
tgagtcaata aagtacccaa aagctgagcc ttcacttaac aataaaaagt agagaatgtg
                                                                     8940
gcaaaaaata gtaaacagaa aaattaagtt gaaccagaaa tagtgggata atgtgatcac
                                                                     9000
taatcaaaca ttggtgcttg aggctgaaaa attttctaga agactccttt ctcttggcag
                                                                     9060
cctgcctttg caagtctgct ccatcagttg tgccttttct cttcttcagt gctaagtttc
ccaggaatgg gagtggggag gagcaggaat tagctgcagt gctgaaggat aatgaaaggt
                                                                     9120
                                                                     9180
accttgggaa ggtctaccat ctctgcctgc atggactgtg tagggaagtg aggaggctca
ttgacaagga acctctagtc aatgctggga aatgggattc tgactaggaa atagaaaggt
                                                                     9240
                                                                     9300
ttcttgtccc atacatgcat cacccacctc ccaccccaac ctttctactg ttttccacaa
                                                                     9360
cactcatcgt actttacagc cttccaaagg ccaaaggtgt tgttatacca tgtaataata
gattatttta taagtcccat ctgtagtatt gtttataagt cattttattt tagagagtcc
                                                                     9420
ccatactttt gaggctgttt tgaatttgtt ttggaacaga gggggaaaat gtgccatatt
                                                                     9480
                                                                     9540
agcccttgca aaccatgaaa ataaagatct caaagttcat ataatttcac aagccagttt
ttaatcaccg cttctatgat gatatcaaat tctacttatt aacacctgtc ctgtacagag
                                                                     9600
attgctgagt gaattcagtc ctgtcttctg gtagccatta tttatcatct tttttctttc
                                                                     9660
tctgccattt actttgagct ataaatgaga gccctggaat ttgagtcatt tgtcaatatt
                                                                     9720
gtcttcataa aaaggatctg agaaaaaaat aatactgttt attcatactt gtttattaga
                                                                     9780
actgcttttt aaggtcaatt tttaaaaaga aaccttccct agaagccaat ttttaccatt
                                                                     9840
tagagaatat totttagaaa gaaacottta gaatgotgga agtatootgt tggtgaacca
                                                                     9900
tgtaactcat aactgtgttg aaaataataa tcttaatttc ttcctctttg ctcgatacat
                                                                     9960
aattacacta cttttgatta agattataaa gatgactttt actcagaact tttaagcaca
                                                                    10020
aagtaaaatc cattaaatca ctgtcttaag caaattaata aggagcaaat tatttgtgag
                                                                    10080
aatatataat agtttaagga cactagtagg tttaccttga actaagatac tcagctacga
                                                                    10140
acttctatga aaaatcactt tagcaagtat agatcttttt caactaagtt aaattgtaat
                                                                    10200
gtattttctc tttaatcccc cacccctatt tttattaatt caagattcac aatcgctatg
                                                                    10260
aaggcaagga tgtttcaaag cacaaacgga atttggccat agcaggtggt gtaacgttgt
                                                                    10320
ctgtaatcgt gtctccagta gtagctgcag tgactgtagg taagaaaatg ctgaaaagta
                                                                    10380
ctaattacct acaattttat ggagttaaag ttttgtggaa ggatttttt taattgtttt
                                                                    10440
ttaatttgag gacaatttaa attgagcctg cagtaagtct tggttgaaag tattacagat
                                                                    10500
tcaagagcct agccttaaag tagttggtaa attgttagtg gctgataccc ttcctcccca
                                                                    10560
ctccacccca agtacagttc agaggcctgg cacttcaaaa gaaaaaagtt tgcatctctc
                                                                    10620
tctttttccc cttatgtgca ttacctgaaa ggctgggaac cttgaatttg cttaacaact
                                                                    10680
gggtaaatct acttttggca aatgttccag ccaactcttc agaaccctgg cgcttttctc
                                                                    10740
tgtatgactc tcttgaaaag actttctaaa actcatgttt ctgtgagtta ttttgttgtt
                                                                    10800
gttgtttgta atgactgatt taatttctct ttaggtatcg gtgttcctat tatgttagct
                                                                    10860
tatgtctatg gcgtagttcc aatttctctt tgtcgaagcg gaggttgtgg agtctcagca
                                                                    10920
                                                                     10956
ggcaatggaa aaggagttag gattgaattt gatgat
```

```
<210> 12731
```

<211> 760

<212> DNA

<213> Homo sapiens

<400> 12731

<210> 12735 <211> 6784

```
60
ggaaagttta tgtaatatat cttcagttac acacaaagaa gcagagctga gatttgaact
cagatgcatg aattcttaat ataagttcca tgattaagtt tcagtagcta tttgggaact
                                                                      120
cagtcatggg gaaaccacca actcatgaag caatccattc tgttgtaaaa tggctactaa
                                                                      180
ttgttacaaa attgttacgt ttgagtcaga tctgtttcct tttgtttcct ttatttctgt
                                                                      240
ttctaacttc tgggacccga ctgggaataa ggttgatctt cttctgtaaa acagctgaat
                                                                      300
tttttatatt caacatacat tttataatca gaaaaataat atatactatt tcttaaaaaat
                                                                      360
tagttttggg gctgatgaca aacatattta taagtcacat atttatttct gaaggtttta
                                                                      420
agtgagtaaa cctggacttt aaaaaatgtt gggccatgtg tggtggctca tgcctgtaat
                                                                      480
cctaacactt ggggagggtg aggagggagg attgcattaa tccaggagtt tgagaccagc
                                                                      540
ctgggcaaca cagtgtgaca ccttgtctct acaaaaaact aaataatcag ctgggagtgg
                                                                      600
                                                                      660
tggtgcatgc ctgtaccccc cgctattaag gaagctggga tgggaggatt gattgagccc
                                                                      720
gtgaggttga ggctacagtg agctgtgatc gtgccactgc actctagtct gagcgacaca
                                                                      760
qaqaqaccct atttccaaaa aagagagaaa aaataaaaaa
<210> 12732
<211> 422
<212> DNA
<213> Homo sapiens
<400> 12732
cttaaatttt attgacagct ctgaaaactc ccctaaattt ccaggcaaaa ggaaatgttt
                                                                       60
agtatttaca aaagacatgc attgataaaa cttgattgtt gctgctttca aagcaaacta
                                                                      120
                                                                      180
gaaacttcta gaaattttta aattgaaagt tttatagagg taatggtaga ttcacatgca
gttgtaagaa ataattcaga gatcgtatgt acctttctca ctgtttgtct cggtggtgcc
                                                                      240
attttgcaca agttatagaa caatatcaga accaggatat tggcatagac acaatctacc
                                                                      300
aatctcactc aaatttcctg atttacttct agttatttct gcacagtgta tttagttata
                                                                      360
tgtattttat catgtttaag tttgtgtatc caccaccaca gtcaagatac tgaacagttc
                                                                      420
                                                                      422
<210> 12733
<211> 422
<212> DNA
<213> Homo sapiens
<400> 12733
cttaaatttt attgacagct ctgaaaactc ccctaaattt ccaggcaaaa ggaaatgttt
                                                                        60
agtatttaca aaagacatgc attgataaaa cttgattgtt gctgctttca aagcaaacta
                                                                      120
gaaacttcta gaaattttta aattgaaagt tttatagagg taatggtaga ttcacatgca
                                                                      180
gttgtaagaa ataattcaga gatcgtatgt acctttctca ctgtttgtct cggtggtgcc
                                                                      240
attttgcaca agttatagaa caatatcaga accaggatat tggcatagac acaatctacc
                                                                      300
aatctcactc aaatttcctg atttacttct agttatttct gcacagtgta tttagttata
                                                                      360
tgtattttat catgtttaag tttgtgtatc caccaccaca gtcaagatac tgaacagttc
                                                                      420
                                                                       422
<210> 12734
<211> 189
<212> DNA
<213> Homo sapiens
<400> 12734
acatgatgaa accccatctc tactaaaaat acagaaaaaa ttagccaggc atggtggcag
                                                                        60
                                                                       120
gtgcctgtaa tcccagactc gggaggctga agcaggagaa tcacttgaac ctgggaggtg
gaggttgcgg tgagctgaaa ttgcaccatt gcactccatc ctaggcaaca agagcaaaac
                                                                       180
                                                                       189
tccatctca
```

<400> 12735	,)					
	acccctattt	ttattaattc	aagattcaca	atcgctatga	aggcaaggat	60
gtttcaaagc	acaaacggaa	tttggccata	gcaggtggtg	taacgttgtc	tgtaatcgtg	120
	tagctgcagt					180
caattttatg	gagttaaagt	tttgtggaag	gattttttt	aattgttttt	taatttgagg	240
acaatttaaa	ttgagcctgc	agtaagtctt	ggttgaaagt	attacagatt	caagagccta	300
	agttggtaaa					360
gtacagttcg	gaggcctggc	acttcaaaag	aaaaaagttt	gcatctctct	ctttttcccc	420
ttatqtqcat	tacctgaaag	gctgggaacc	ttgaatttgc	ttaacaactg	ggtaaatcta	480
cttttggcaa	atgttccagc	caactcttca	gaaccctggc	gcttttctct	gtatgactct	540
cttgaaaaga	ctttctaaaa	ctcatgtttc	tgtgagttat	tttgttgttg	ttgtttgtaa	600
tgactgattt	aatttctctt	taggtatcgg	tgttcctatt	atgttagctt	atgtctatgg	660
cgtagttcca	atttctcttt	gtcgaagcgg	aggttgtgga	gtctcagcag	gcaatggaaa	720
aggagttagg	attgaatttg	atgatgaaaa	tgatataaat	gttggtggaa	ctaacacagc	780
tgtaggtaag	tcctttaagc	aaaggaagaa	aatgtgctta	ttaacagtgt	aagtagtggg	840
gaggccagag	ataacatgca	actcagaatt	tccattgcca	tccttttact	aggcctaata	900
gtattcattc	agaagtacat	aagtgaataa	actgccaagg	aggagtgtat	ggatgaaaga	960
ggtgggggta	attctgggta	tctgacctct	aattggaata	taatgtctta	gaaatcataa	1020
	ttaaattttg					1080
gaatacagtt	aataaaagaa	atacggatga	ccaataatac	aaaaatatct	tcaactcaat	1140
gttattcaaa	gaaatgtgaa	ttagaacagt	aacgagcaaa	gattaagaag	aataaaaaag	1200
ccttcataga	ctgcctatag	gagtatgtca	ataaaccttt	tttaaaaagt	gcatgttcta	1260
tattctagca	attcttgttt	tagaaatttg	tcatagggaa	ataattaggc	agatgtgtaa	1320
agataatgcc	tactttctta	cctcttattt	tctcttgaac	tggcctcaat	cagatttttg	1380
tccctaccac	tccagaattt	tatttctgct	attcactgaa	gcagagtcac	cagtggcctc	1440
cacgtaacct	aatacagtgg	tcaggtcttg	gtcctcatct	taacagtata	tccgacatgg	1500
tagagactct	acccttcttg	aaatacttca	cttttcttat	gggaaaccac	ttcttaccat	1560
atttcctggc	cagtccgtct	cattaatctt	tgctggttca	ttttcctctt	ctgacctcta	1620
	ccccagagct					1680
tctcatctat	taaataatgc	atagaccgac	ctctcccctg	aacttcaaac	ttgcatgtgt	1740
aactttcctc	tttaatctgc	acttgagtgt	ctaacaagaa	tttcaagctt	aacttgtcta	1800
cagccaaatt	cttggctcta	aaatctcttc	ttcccttcat	cctccttaac	tcaataagta	1860
gcttctccat	tcctcctgtt	gcttgggcca	aaaaccttca	cttaacaatg	cctccctctt	1920
ttccctcttg	tcctacatct	gattgatctg	tcagcaaatt	ctgctgcttc	cttcaatatt	1980
tagccataat	ccagccactt	cttactctct	tcgttgtcct	tcccttagtc	caagctacca	2040
tcctctttcc	tgggctattg	taatagcctc	ttaactgctg	tatcaactte	teagetteta	2100 2160
ttcactagtc	catagtgcag	ccatagtcac	atgtctaaac	cctgtcagat	tataactttc	2220
ttatgctcaa	aacttcccca	gtggcttcta	actgtactgg	ggaagaaaac	ccaaayteet	2280
tatcatagcc	caaaaggccc	cacatgatct	gccccaacta	tgtetetgag	gattatggta	2340
gtcaccctct	tattttatac	cactcttgct	tgatttttga	gggtgccaag	gaaaatttga	2400
cttctaagct	tttaaactgg	cagttctctg	tetggaatae	attataaaa	gaaaatttta	2460
tgactcactg	ttttacttca atataaaatg	gatangaga	atatacatac	atacactttt	catcactctc	2520
teateacate	ctctcttgta	ttttcctca	tagracytac	caccatataa	ttaggtatat	2580
eteeeetta	caaatattgg	tagaaataaa	tagcacctgc	atacaaaato	tataagaggt	2640
aataggaact	tggaacatag	tattatcaca	tottaataat	accttotaga	cagaactgtg	2700
acigiaaaai	agaaatcaac	ttttaccaya	ttcttactga	cctagagaat	aataagetet	2760
ttanatanca	cccttaatga	aaactotcac	ataattttcc	tctaaagtca	gcgatatttt	2820
ttaaacyaca	tattctttat	agaatteeta	aatctgggtt	tttgaaaaaa	gaaactagtg	2880
aggatttasa	attgttggct	ctattcccac	tacttctaat	ggactagcct	gaaaaaaata	2940
ttttccata	tctgcgtata	ttttatacct	tatataatgt	cctctctgaa	atcatggagg	3000
aatttaagaa	ggagaaaatt	gataatcata	cttacttagt	ttctttggaa	tatttqcatt	3060
tagacacaac	atcagtagca	gaeggeege	acaacccaaq	cataggggag	ggaagtgttg	3120
atagacacaac	tggcagtttg	agtgcaagtg	gaagccacat	ggatcgaata	ggagccatcc	3180
gagagaacct	gagtgaaacg	accaacacca	tggcactagc	tggagccagt	ataacgggga	3240
atctatcaga	aagtgccatg	gtaaactgtt	ttaacaggtg	tgtgttttgg	tttggtttgg	3300
ttctactttc	tggtaactac	aaattattaa	ttaggtgaga	attttgaaca	taaagcatga	3360
tgattatata	taaccctact	atgtcaaggt	tcaaaatagt	aatgttaaaa	atgaaatttg	3420
2			_			

gggccaggtg	cagtggctca	cgcctgtaat	cccagcatgt	tgggaagcca	aagcaggtgg	3480
attgcctgag	ctcaggagtt	cgagaccagc	ctgggcaaca	tggcgaaacc	ccatctctac	3540
taaaaaaata	taaaaaatta	gccggatttg	gtggcatgca	cctgtagtcc	cagctggtcg	3600
ggaggctgag	gtaggaggat	cacttgagcc	tgggagttgg	aggctgcagt	cagccaagat	3660
cacaccactg	agctccaacc	tgagtgacag	tgagaccctg	tctcaaaaaa	aaaaagaaaa	3720
atttggtggt	agatttctaa	gtctaaggaa	taacattctg	ccaattttt	cactgtcctt	3780
gtcacatttt	atattataaa	tcgttgctac	agctgcttca	gtagacattg	aagcaaaggc	3840
agtacttaag	cctagatctt	acctctgtgg	gtaacaacag	ccagatatta	ggagatggga	3900
ctttggctga	gtcctgggaa	acaggtggag	tcaggacatc	caggaatgtg	tgaactggga	3960
ccgggataat	cggctagggt	ccttttatgt	attaatgctt	gcttactttg	ttctcaccaa	4020
gtcttttatc	aatagccata	tagataagta	ggaaaaatta	tcttcccctg	tttctcttta	4080
attcactatt	tttcacttag	gcttattagc	cttgcttttt	ttaagtgtag	gggagaatac	4140
atgaattaaa	agataaatta	gacatcttat	ttttaggtag	tttgcctttt	aaatacaaac	4200
tcttaagtta	tagtggtata	tactacctct	ttttaaaaag	gcaaatgttg	gttgggctca	4260
gtggctcata	cctataatcc	cagcactttg	ggaggccagg	ttgggaggat	agcttgaggc	4320
caggaatttg	agaccagcct	gggcaacata	acgagaccct	gtctctaaaa	atatatataa	4380
ataaataaag	tattaaaagg	caggtgttat	ttatagagtc	attttttaat	atagatgccc	4440
aggatttttg	gattcattgg	tgtgtcatgt	ttaatgatta	ataatgtatt	ctaactttgt	4500
gttttgcatt	gaaacattac	aaagtgccat	atgctgagtg	agaataatgg	agtacattta	4560
agtgaaaatc	ctttgtgtct	tttttgtgtt	atttcattac	cactttactt	ggcagacagc	4620
tgatgttccc	cattttattt	ggatggctgg	tactatgcag	tgtgctgcag	tagaatttaa	4680
attaaataaa	aggaaataaa	aaataatggt	tcctaaaata	gcttctggtt	actagggttc	4740
ttaactgaat	tatttaaaga	tacatattac	agtagtgctg	atattaaata	taattttggt	4800
gatttcatac	cccctttaa	ggttggaagt	acaagcagat	gtacagaaag	aacggtacag	4860
tctaagtgga	gaatctggca	cagtcagctt	gggaacagtt	agtgataatg	ccagcaccaa	4920
agcaatggca	ggatccattc	tgaattccta	catcccattg	gacaagtaag	gaaaaaactg	4980
ttaaaaaatt	gaaagtattt	tttaaattaa	aggaataatt	cctatcatta	gacaaattac	5040
cagtgaaaag	tggctaccaa	ctattaagtt	ctctgagaaa	aggaaacagt	gagctgtcca	5100
gagtaggcaa	atctgtatag	atcataaagt	ggatttgtgg	ttgtcaaggg	ctgggaaagg	5160
gaagaatggt	aactaactgc	taatggatgc	aagatccctt	tttgggatca	tgaaaatgtt	5220
ctgaaattag	gtagtggtga	tggttgcaca	gctctgatca	caactaaaaa	tcactgaatt	5280
gtacacttta	aacaggggaa	ttgtatctga	ataaagctgt	tctttaaaaa	aaggtagcat	5340
agtgtctaga	acagcataag	caataaatgt	gtccaccact	attttaaaac	attgaagcat	5400
tataaagagt	tctgttatat	caagtatgtt	ttttaagtag	aacgtgttct	gcgttaaggt	5460
gttctcatag	cttatatata	gtctgaattt	tccacataga	aacccttccc	ccagtcatct	5520
gaacaaaaag	aagtcagcaa	ttatgtttgt	atttgttact	cttatatttc	agagaaggca	5580
acagtatgga	ggtgcaagta	gatattgagt	caaagccatc	caaattcagg	cacaacagtg	5640
gaagcagtag	tgtggatgat	ggcagtgcca	cccgaagtca	tgctggcggt	tcatccagtg	5700
gcttgcctga	aggtaaatct	agtgccacca	agtggtccaa	agaagcaaca	gcagggaaaa	5760
aatcaaaaag	tggtaaactg	aggaaaaagg	gtaacatgaa	gataaatgag	acgagagagg	5820
acatggatgc	acagttgtta	gaacaacaaa	gcacgaactc	aagtgaattt	gaggctccat	5880
ccctcagtga	cagtatgcct	tctgtagcag	attctcactc	tagtcatttt	tctgaattta	5940
gttgttctga	cctagaaagc	atgaaaactt	cttgtagtca	tggttccagt	gattatcaca	6000
cccgctttgc	tactgttaac	attcttcctg	aggtagaaaa	tgaccgtctg	gaaaattccc	6060
cacatcagtg	tagcatttct	gtggttaccc	aaactgcttc	ctgttcagaa	gtttcacagt	6120
tgaatcatat	tgctgaagaa	catggtaaca	atggaataaa	acctaatgtt	gatttatatt	6180
ttggcgatgc	actaaaagaa	acaaataaca	accactcaca	tcagacaatg	gaattaaaag	6240
ttgcaattca	gactgaaatt	taggcccata	aatgctgcag	aataattacc	actgtacaac	6300
cgtgtttgga	gctggttgaa	ctacatgtga	ctacttaagt	ttcaggttac	cagcaaaagc	6360
cgggtttcat	tatcataatg	cagatacatt	ttctgtgttc	agcaaggcat	tgtgtgtcat	6420
gtggatctta	gttaccaaac	tatgaagtga	aggctttaaa	agtgcattat	tttaaggata	6480 6540
ataaatttga	agagcaaagc	atgttttgtg	tgtttgccac	aaaacattgc	ttgaagcaca	6540
tacttagata	gaaattggtc	ttaatttata	taatcaatat	aaaatactaa	tgcaattcta	6600 6660
cagcattcaa	atgaagaaaa	cttgaggctt	tagggataag	tggttagtga	tattttattg	
aaaccactaa	agagataagt	ttaaaagaac	tgcataggtt	actctcagta	tatgatactc	6720
-	ctatttatat	cggcataaat	ttcattttt	ttcttcatat	gcaatgtggt	6780 6784
tgta						6784

<210> 12736 <211> 10008

<400> 12736	5					
		agtgggatgg	ttggtgctgt	acctcagggg	acagggcggg	60
acadaadaa	gcggggccag	gcctggtctc	tgataacggg	atgggtggtg	ctggacctcg	120
aacaaaacca	ggcctcgtgg	cgggaggagg	cagggcaggg	cctctgggac	ggggctggac	180
ggcttgttga	cggaaacgag	cccttgacgc	tgtggcccgg	aagtggagcg	gctgtcgcag	240
tacaactcca	gcagtggcag	cggaggcctg	tgtttgcggc	cttcggcaag	cgactgagat	300
ggcgagcgca	actgcacctg	cagccgcagt	ccccaccctg	gcttcgcctt	tggagcagct	360
ccggcacttg	gcggaggagc	tgcggttgct	cctgcctcga	gtgcggggtg	agctgacgga	420
gttagaacgg	gcgacggcag	gggcgggctc	ggggtcgggg	agaggccggg	ctcggggtcg	480
gggagaggcc	gggctcgggg	tcgcggagag	ggcgggctgg	ggcggcggcg	gggagccggg	540
cttgggcgag	ggaggtggct	ccgcttacct	cagcttttcc	attcgccacc	gttcggcccc	600
cacacgccac	acccacaagt	cggcgaagcc	caggagacca	ccgaggagtt	taatcgagag	660
atgttctgga	gaagactcag	tgagtgcgcc	tccttccggg	ctccccttgc	ctcacttcct	720
ccagcgtccc	gacccctttt	cctcccgctg	tcccccacgg	aggggactgc	tctcccccgc	780
tgcatccttt	ctgtgaggta	ccttacccac	ctcagcacct	gagagggtga	aatagaattc	840
taacctcgac	attcgggaag	tgtttttgag	aagtctcggt	cggtaaggga	agtcttccaa	900
gtccgtgcag	cactaacgta	ttggcacctg	cctcctcttc	ggccaccccc	cagatgaggc	960
agctgtgact	gtgtcaaggg	aagccacgac	tctgaccata	gtcttctctc	agcttccact	1020
gccgtctcca	caggtgggct	tcactttcgt	ggaatccttg	ggctgccgag	ttacacctta	1080
ggaatcctct	aattttcttt	ccaccttttg	catgcacgcc	aggagatttc	ttttcttcat	1140
ctgtccagtg	aggttaccgt	ttttacttca	caggattgtt	gtgaagaccg	aattgccaag	1200
tgcagttcct	ggcgcggagt	aggcaggtct	tataaatatt	ggttcagtct	gaagtttatc	1260
ctggttgttt	cccttctgat	aattttttaa	gcacttttta	tttgctgggt	gttttcacat	1320
acttgatggc	catctgacag	atgagcaagg	aggctcagaa	gctcagctta	agatttaaaa	1380
aaaagcaggg	gggctagagt	ttaaatcaag	gtctatctga	tgtctaagct	acctattctg	1440
ttatactgca	taataccctt	tttatattat	tttttatatt	taatcagtaa	catatgtaga	1500
tagtacaaaa	ttcaacagat	atcaaagtgt	gttaagttta	cctttccacc	cactttctca	1560
tttttgtctc	ccccagttcc	ttttgcatta	ttccacgtat	attctgtgca	tatatacatt	1620
catatacatt	tatctgtatg	tgtcagcttc	tttttacaca	aatgatacat	aaacactgtt	1680 1740
ctggaccttc	caacttagaa	ttactgcaaa	cagtgtcgtg	atgaattacc	taattctgtg	1800
tatgtgtgta	tattggtaga	aaaaattccc	ggaagtagaa	ttgctagaac	aaagatttat	1860
gcattttaaa	tattccttta	ttataaaact	aatgaaagta	aacatgttgg	taagaccac	1920
gtatgctcta	tgctcagttt	ttctagagtt	gtgtatgett	aatataggag	aattttaa	1980
ttaaaatggc	atattcattg	ccttatttga	contatatta	caattgtttt	acctacacta	2040
tctacatata	taggtgtttg	gaaaygatat	addiatette	tgctgcatgt	acctacagtg	2100
ataaactctc	teeteetaea	atanataa	accutation	tttttttgag	cctctcccta	2160
tetetgteae	ccaggetgga	taggtagtagge	tetegaetag	ctcactgcat ctgggattac	aggracetgt	2220
cegggtteaa	geagetetee	totatttta	attagagag	ggtttcacca	tattagacaa	2280
caccacgeer	ggctaatttt	ctcaactcat	ccacctacct	tggcctccca	cagtattaga	2340
getagteteg	taaaccaca	tacctaacct	acctttgaga	tttgtgatga	ggaaacaaga	2400
gatgaattgt	atgagecaceg	ttcaaaagat	tcatggaaaa	tacttatttc	aaaaaqaqta	2460
gatgaattgt	ccttatttt	cttatctgct	aacccctttc	tttcaaatgc	acttaggact	2520
tactactaaa	actcactgca	agtaagatac	cacaaqqaqq	cagcatagaa	ctgattttct	2580
atacatocto	aggacagtag	tttcactcat	agatgaaaag	ttagaatttg	gatttatttg	2640
aaatatatac	aaatattcaa	gtatatacat	atattcaaat	aaatacatat	atgtatatat	2700
gtgtgtatat	acacacatac	atacacatga	atcatcattg	ccttcttgag	atctcaccac	2760
tttagtccta	ctaaaagatg	gatgattatt	ggttttttt	tgttgttgtt	gttgttttt	2820
aaattccaat	ctgtatggaa	tgatacttta	ataaaattat	gtgctcggat	gttgaataaa	2880
tatcaaatta	ccataaaagt	ttctaaacac	tctcagtcac	tgcttatctc	atccctgact	2940
ggtcacaaac	agtttgtaga	ctggctccaa	cctggaccac	atttgtatag	tattgactta	3000
gaatttaaca	gaaaattgag	gacaaggaag	atgagaaagc	cagtgaccac	ctagaaggaa	3060
aatagttaac	atggagcatt	gtcgagtcca	tgctagttac	ctttagttac	atattctgat	3120
tctgttaaaa	aaagagagag	acctggttaa	tggtttaata	. accatggtct	gtcagttggt	3180
ctgtctgtct	ctctccctcc	ctctctttc	tgtaaagggc	cagttagtaa	atattttaga	3240
ttttgtaacc	aactacccaa	ctctgccctt	atagagcaaa	. cacaactaca	gacattaaaa	3300
ccagtgagta	tggctgtgtc	ccaatacact	tcatttccaa	. aaacaggcag	tggggcctga	3360
cttggcctga	. ggaccacagt	ttgccagctc	ctggtctaag	atatcatgaa	tatcttggga	3420

tacagagtat caggaataag ttttttcctg ctgtttctta atggtttatt gagttgtcag 3480 cccaatatct actatatagc taactcctcc ctggtatgtg atgagtatag taggcctgcc 3540 3600 ttcataccag gacttcagaa aatgtttgat gatgctgtag aaatatctgc cctaggccgg 3660 gtgcagtggc ttacacctgt aatctcagca ctttgggagg ccaagggagg tggatcacct 3720 gaggtcagga gttcgagacc agtgtggcca gtgtggcaaa accccatctc tactaaaaat 3780 acaaaaaatt agctgggtgt ggtggcgggt gcctgtaatc ccagctactt gggaggctga 3840 ggcaggagaa ctgcttgaac ctgggaggtg gaggttgcag tgagccaaga ttgcgccatt 3900 aaagaaagaa aaagaaagaa aagaaaaaga aaagaaatat ctgctctatt ccacagcaga 3960 agggttgacc actttgatct aatctgtttc ctttttcata ggaaacccag aagttctgtg 4020 aacaagtcca tgctgccatc aaggcattta ttgcagtgta ctatttgctt ccaaaggatc 4080 agggtaagcc acataagtgt tgcatttatc gtgtagatct ttgctaatat tgtggattat 4140 gtcttgtgac ttttaccttt acccaacttg aacatgtaac tttctcccat aaaatacagt 4200 gaaggataat tttgtaatgt aagtgactta tataaacaag ccattattct aagatacaga 4260 4320 ctcacagcct tctccctctt caacccgttt taacaccaca gatactggct ggctctcagc 4380 cccatatgca ggctcaggcc atccttactt tcctccaccc atgttatatc tcaccctatt 4440 tctgaacatc tgcataggtt aaatggcctc cagccctgcc tgtagaatca tgcattgatt 4500 4560 ataatcatgc caaaattata actgaataca tgtcatggat cttcagggtt actcaagtgg 4620 cttaaacttc aagtgtttca tctacagttg ttaagagatc acggtcctta atgaatgaat acatggtgtc acggaaagat tttgttccaa atctcttttg aagaaaacac taaggaatgg 4680 4740 caggaggggc aagaaaatgc catggggata taagtaagac ctgagttttg tgttagcatg 4800 taggttaaag catgtgggtg tacattacct tatagttctg taatgcttag actcaggaaa gcagatggtg cttctgaaaa gaacaccagg ttgcttattc tttgggtttg gccacaggga 4860 4920 tcaccctgag aaagctggta cggggcgcca ccctggacat cgtggatggc atggctcagc tcatggaagt actttccgtc actccaactc agaggtagtg atgccacagt ttaggttacc 4980 agttattggg gttccttgcc tcagagggga aaagctcatt ttaacagcaa agttactgac 5040 5100 agctgagagt aatgaccagc aggaagaagc tttttaggag acaggaacct aggttattaa 5160 tatatcctta ctgatttctt tccccagccc tgagaacaat gaccttattt cctacaacag 5220 tgtctgggtt gcgtgccagc agatgcctca gataccaaga ggtgagtgaa agtgggcagt gggccatgtc tgctggccaa agcaaagaga cctcatgtct agcttccagc tttgtaacat 5280 gtatttgaat ttatataaac agtctagtga aatatatata ttttattaat gaaattaata 5340 ggtaggtatt aatacttttt gtcattctct agttatcata cttctaaatt ccactccccc 5400 5460 ttgctgtggc tgtctcttgt tgaacaagta tggtttgttt tcctagtcct accccaagag 5520 tagtattatg gagcacactg aagcagttat gaggtagaga cagctaggcc aaaacagtgg 5580 ttgtccaaga ggaccatgat gataaacatc atgtgaccat tttatttctt cttgtgaata 5640 aaatacaagc tttttaaacc cctatctaga taccagggga tgtagtgaga atttttatt aaacccgcac ccttgtcaac cgtccttggc actcccatca ataggaacaa tgtgattgtt 5700 5760 ccttgcagtc ataagaaaat tgttggattt ctcctctaat tctagtgctt ctgatttttc 5820 actcatagat aacaaagctg cagctctttt gatgctgacc aagaatgtgg attttgtgaa 5880 ggatgcacat gaagaaatgg agcaggtgag gggacctcca tcattggaag gcaactcctt 5940 gactagtaga tgagaattaa ttataaagag agatttcctg agcattgacc agataggtcc 6000 cattctcact actgtcctct gtcttccatc tcccactgct tgttagtgtt tgatttagta 6060 ccactcctct gtgttccctt actggacaag gagagcgaga acagggttta tgaagtgatt 6120 caactctgta gcccttagtg aagtggctgg ctaagatttt tggacaacta agacatcgtg 6180 atcatggtat gtcttaggct gtggaagaat gtgaccctta ctctggcctc ttgaatgata 6240 6300 ctgaggagaa caactctgac aaccacaatc atgaggatga tgtgttgggg tttcccagca atcaggactt gtattggtca gaggacgatc aagagctcat aatcccatgc cttgcgctgg 6360 6420 tgagagcatc caaagcctgc ctgaagaaaa ttcggatgtt agtggcagag aatgggaaga 6480 aggatcaggt ggcacagctg gatgacattg tggatatttc tgatgaaatc agccctaggt 6540 aagcgggatc cccacttgaa acatctgagc agcagcgttc tgatttcaat ttgtgttgtc acctcaaggt tttcacagtt tttttatatt ttgaaatttt tcaaacctat aggaaagttt 6600 aaaaagtacc ttcagtgaac acccctatat ccttctatta gatttgcctg ttgttcacat 6660 tttttcctat attggtttat ttctcaagag atactgtttc atatttattc cagaatgttt 6720 tgagagtaaa ttgcagacag caatgacatt tcacccctaa atacttcagt atgtatctcc 6780 tgaagtactc ttattcctac tcttattatc acatccaaga aatttgacat tgaatataat 6840 agtattatct aatattcaga tttccccagt tgtctgtatc taaaatgtca tataaattca 6900 gggttctgtc aaggtcccac attgcattta attgtcatct ctttagtctc ttgaaatcta 6960 7020 gaacagttcc tatcctttgt agtctttttt aatcaacatt ttaaaaagaa accaggacag 7080 ttgtcttgta aaatatccaa caacctggat tcacgtgatt gttagttctc atttttgcaa

```
7140
gaatatcata taattaagtg ttttgtacat ctcattttat catattaggg aggcacatga
tgttggtttg cctcattatt ggtggtacta aatttgatca cttaaagtgg tgctcacttt
                                                                    7200
                                                                    7260
aqtaaaqqta tattttactc taattttagc ttccactgat gaaggctgcc tgcctatatt
                                                                   7320
agttattaaa ctgatggttt cacatcctca catttttgac tgaattgatc atgcacccta
ctatgaacca agggaatttc cccccagct tcctagtgaa atggggtatg gttgtttcaa
                                                                   7380
                                                                    7440
taaagactgg ttgaactcat tctgtattgg ttgcccagtt gcccaatttt aaaaactgac
                                                                    7500
aggcatttct gggacagttt ctcactgttg acatccatag ttgtgtacta gaaacaacct
ggctgcgttt ttttgttaat gattactttt gttttctgct cttagtgtgg atgatttggc
                                                                    7560
                                                                    7620
tctgagcata tatccaccta tgtgtcacct gaccgtgcga atcaatgtaa gtactggctt
                                                                    7680
tgagggaata gctacagaac aaatgggcag aatttcacta atcactagta tttcctgtaa
                                                                    7740
gctatagggt acatatttat tagtcacatt tggatggaag tacaacagta atgtcacagt
                                                                    7800
tcttgcatgc gtttggggtt gataaatatt cactgaagtt gaattataat agccatgagc
tttggtagtt ctctcttcca taatcacctg ggtaatcatt cagaaaagcc caaaggcctt
                                                                    7860
agaaaatgat gctttaaggc tgggcgcggt agctcacacc tgtaatccca gcactccagg
                                                                    7920
                                                                    7980
aggcggaggt caggagttga gaccagcctg gccaacatgg cgaaaccttg tctctactaa
gaatacaaaa attagccggg catcatgcac ctataatccc agctacttgg aaggcttaag
                                                                    8040
                                                                    8100
caggagaatc gcttgaagcc gggaagtgga ggttgcagtg agccgacatc gcgccactgc
                                                                    8160
actccagcct gagcaacaga gcaagactct gtctcaaaaa aaaaaaaaa aaaaaaaaa
                                                                    8220
aaaaaaaagc ttctttgaaa agaaagtctt aattacacgg taatttagga acttctcaac
                                                                    8280
ttgaagtcac aagtttctaa tttctagact aggcagcaat tagattgaac ttcagctgtt
                                                                    8340
catgaagtag ctggctgagg tcacatgttt ctgatttcta gacaaggcag aaataagtgt
tccagaaaca tactctgttc taatacaaac acattgtgtg atttaactat ggagagtcaa
                                                                    8400
ctttcttata aaaatctgat tttattgtat tctttgaggt tctgtgccct ttactagaga
                                                                    8460
                                                                    8520
gagttctgtt ctctctaatg ttattggaaa gagcagtaaa actgccaaat ggcttatatt
                                                                    8580
ttacaattga atgtatcaat tctagtaata tttgataaat tggataatgg aaattagatt
                                                                    8640
catcagatgt gtcttcatga tgtataaaca ccttgaagta gaataggatc cttttgggca
                                                                    8700
ttaacatttt tttggcatta acttttaaaa aattgacttc ctaagaaata aacattttta
gcaatatgcc tagtcagcta tcccaaacat agtatctgct ctagcaattt taaaatgtgt
                                                                    8760
actgcatatg catcttatat gtattgatat tttatattaa acgtctccat cttatcctta
                                                                    8820
tattggtgtt cttaaaattc ttaatgcgct ttttttttt ttttttttt tttttttt
                                                                    8880
aaaggaacct tagtcatttc tgctttatat tttgagctat cagcatttgg gaccaattca
                                                                    8940
                                                                    9000
ggttacattt tcctttttct gtcctttttt aaattgaaaa tattttagat ctaaaaaatc
                                                                    9060
ttattaaaat gttatagcaa tagtattaat aagatcttgc taaatagaaa agaacccgta
atcctgccac cctaacctaa tcagcatttt aaattttgca tacttccttc aggtcctttt
                                                                    9120
tctaaataat ttttttatta cttgggtctt taaaaaatatt tgaactcacc tttttatggt
                                                                    9180
agggctcagg gtgaataact tctgtgtttc ttttctagtc tgcgaaactt gtatctgttt
                                                                    9240
taaagaaggc acttgaaatt acaaagtaag tatgaagact tctcagatag ctttttgtga
                                                                    9300
gtaaaacgga actgctgtcc agacgttctc aactccctag ctcccatttc aaggagtggg
                                                                    9360
aaagggtggg tgtgggattt tctttcagct tcagttgtgg ggcagctgag attctgcaaa
                                                                    9420
                                                                    9480
gaagetteee tttaaaaaaa ttttagtttt eeetgtgete eeteetgagg ataggtttte
ccttgacatc ctaataagtt taacttactt ctttcctatt ctattcacag agcaagtcat
                                                                    9540
gtgacccctc agccagaaga tagttggatc cctttactta ttaatgccat tgatcattgc
                                                                    9600
                                                                    9660
atgaatagaa tcaaggagct cactcagagt gaacttgaat tatgactttt caggctcatt
tgtactctct tcccctctca tcgtcatggt caggctctga tacctgcttt taaaatggag
                                                                    9720
ctagaatgct tgctggattg aaagggagtg cctatctata tttagcaaga gacactatta
                                                                    9780
ccaaagattg ttggttaggc cagattgaca cctatttata aaccatatgc gtatattttt
                                                                    9840
ctgtgctata tatgaaaaat aattgcatga tttctcattc ctgagtcatt tctcagagat
                                                                    9900
tcctaggaaa gctgccttat tctctttttg cagtaaagta tgttgttttc attgtaaaga
                                                                    9960
tgttgatggt ctcaataaaa tgctaacttg ccagtgatta aatgagtg
                                                                   10008
<210> 12737
<211> 10008
<212> DNA
<213> Homo sapiens
<400> 12737
                                                                      60
ggcctgtcct ggcctctgag agtgggatgg ttggtgctgt acctcagggg acagggcggg
                                                                     120
gcgggaggag gcggggccag gcctggtctc tgataacggg atgggtggtg ctggacctcg
                                                                     180
ggcttgttga cggaaacgag cccttgacgc tgtggcccgg aagtggagcg gctgtcgcag
                                                                     240
```

```
300
tgcggctccg gcagtggcag cggaggcctg tgtttgcggc cttcggcaag cgactgagat
ggcgagcgca actgcacctg cagccgcagt ccccaccctg gcttcgcctt tggagcagct
                                                                    360
                                                                    420
ccggcacttg gcggaggagc tgcggttgct cctgcctcga gtgcggggtg agctgacgga
                                                                    480
gttagaacgg gcgacggcag gggcgggctc ggggtcgggg agaggccggg ctcggggtcg
                                                                    540
gggagaggcc gggctcgggg tcgcggagag ggcgggctgg ggcggcggcg gggagccggg
                                                                    600
cttgggcgag ggaggtggct ccgcttacct cagcttttcc attcgccacc gttcggcccc
cacacgccac acccacaagt cggcgaagcc caggagacca ccgaggagtt taatcgagag
                                                                    660
                                                                    720
atgttctgga gaagactcag tgagtgcgcc tccttccggg ctccccttgc ctcacttcct
                                                                    780
ccagcgtccc gacccctttt cctcccgctg tcccccacgg aggggactgc tctcccccgc
                                                                    840
tgcatccttt ctgtgaggta ccttacccac ctcagcacct gagagggtga aatagaattc
taacctcgac attcgggaag tgtttttgag aagtctcggt cggtaaggga agtcttccaa
                                                                    900
gtccgtgcag cactaacgta ttggcacctg cctcctcttc ggccaccccc cagatgaggc
                                                                    960
                                                                   1020
agctgtgact gtgtcaaggg aagccacgac tctgaccata gtcttctctc agcttccact
gccgtctcca caggtgggct tcactttcgt ggaatccttg ggctgccgag ttacacctta
                                                                   1080
ggaatcctct aattttcttt ccaccttttg catgcacgcc aggagatttc ttttcttcat
                                                                   1140
ctgtccagtg aggttaccgt ttttacttca caggattgtt gtgaagaccg aattgccaag
                                                                   1200
tgcagttcct ggcgcggagt aggcaggtct tataaatatt ggttcagtct gaagtttatc
                                                                   1260
ctggttgttt cccttctgat aattttttaa gcacttttta tttgctgggt gttttcacat
                                                                   1320
acttgatggc catctgacag atgagcaagg aggctcagaa gctcagctta agatttaaaa
                                                                   1380
                                                                   1440
aaaagcaggg gggctagagt ttaaatcaag gtctatctga tgtctaagct acctattctg
ttatactgca taataccctt tttatattat tttttatatt taatcagtaa catatgtaga
                                                                   1500
                                                                   1560
tagtacaaaa ttcaacagat atcaaagtgt gttaagttta cctttccacc cactttctca
                                                                   1620
tttttgtctc ccccagttcc ttttgcatta ttccacgtat attctgtgca tatatacatt
                                                                   1680
catatacatt tatctgtatg tgtcagcttc tttttacaca aatgatacat aaacactgtt
                                                                   1740
ctggaccttc caacttagaa ttactgcaaa cagtgtcgtg atgaattacc taattctgtg
                                                                   1800
tatgtgtgta tattggtaga aaaaattccc ggaagtagaa ttgctagaac aaagatttat
gcattttaaa tattccttta ttataaaact aatgaaagta aacatgttgg ctatgaccac
                                                                   1860
                                                                   1920
gtatgctcta tgctcagttt ttctagagtt gtgtatgctt aatataggag taagattctt
                                                                   1980
ttaaaatggc atattcattg ccttatttga ttttcatagt caattgtttt aatttttcag
tctacatata taggtgtttg gaaaggatat aaatatcttc tgctgcatgt acctacagtg
                                                                   2040
ataaactctc tcctcctaca tacctttgag atttttttt tttttttgag acagagtctc
                                                                   2100
tctctgtcac tcaggctgga gtgcagtggc acagtctggg ctcactgcat cctctgccta
                                                                   2160
ccgggttcaa gcagttctcc tgcctcagcc tctcgagtag ctgggattac aggcacctgt
                                                                   2220
caccacgcct ggctaatttt tgtattttta gttgagacgg ggtttcacca tgttgggcag
                                                                   2280
gctagtctcg aactcctgac ctcaagtgat ccgcctgcct tggcctccca cagtgttggg
                                                                   2340
                                                                   2400
attacaggtg tgagccaccg tgcctggcct acctttgaga tttgtgatga ggaaacaaga
gatgaattgt atgagagcac ttcaaaagat tcatggaaaa tacttatttc aaaaagagta
                                                                   2460
gttaatatta ccttattttt cttatctgct aacccctttc tttcaaatgc acttaggact
                                                                   2520
                                                                   2580
tgctgctaaa actcactgca agtaagatac cacaaggagg cagcatagaa ctgatttct
                                                                   2640
atacatgctc aggacagtag tttcactcat agatgaaaag ttagaatttg gatttatttg
                                                                   2700
aaatatatac aaatattcaa gtatatacat atattcaaat aaatacatat atgtatatat
                                                                   2760
gtgtgtatat acacacatac atacacatga atcatcattg ccttcttgag atctcaccac
2820
aaattccaat ctgtatggaa tgatacttta ataaaattat gtgctcggat gttgaataaa
                                                                   2880
tgtcaaattg ccataaaagt ttctaaacac tctcagtcac tgcttatctc atccctgact
                                                                   2940
ggtcacaaac agtttgtaga ctggctccaa cctggaccac atttgtatag tattgactta
                                                                   3000
                                                                   3060
gaatttaaca gaaaattgag gacaaggaag atgagaaagc cagtgaccac ctagaaggaa
                                                                   3120
aatagttaac atggagcatt gtcgagtcca tgctagttac ctttagttac atattctgat
                                                                   3180
tctgttaaaa aaagagagag acctggttaa tggtttaata accatggtct gtcagttggt
                                                                   3240
ctgtctgtct ctctcctcc ctctctttc tgtaaagggc cagttagtaa atattttaga
ttttgtaacc aactacccaa ctctgccctt atagagcaaa cacaactaca gacattaaaa
                                                                   3300
ccagtgagta tggctgtgtc ccaatacact tcatttccaa aaacaggcag tggggcctga
                                                                   3360
cttggcctga ggaccacagt ttgccagctc ctggtctaag atatcatgaa tatcttggga
                                                                   3420
                                                                   3480
tacagagtat caggaataag ttttttcctg ctgtttctta atggtttatt gagttgtcag
cccaatatct actatatagc taactcctcc ctggtatgtg atgagtatag taggcctgcc
                                                                   3540
                                                                   3600
ttcataccag gacttcagaa aatgtttgat gatgctgtag aaatatctgc cctaggccgg
gtgcagtggc ttacacctgt aatctcagca ctttgggagg ccaagggagg tggatcacct
                                                                   3660
gaggtcagga gttcgagacc agtgtggcca gtgtggcaaa accccatctc tactaaaaat
                                                                   3720
acaaaaaatt agctgggtgt ggtggcgggt gcctgtaatc ccagctactt gggaggctga
                                                                   3780
ggcaggagaa ctgcttgaac ctgggaggtg gaggttgcag tgagccaaga ttgcgccatt
                                                                    3840
3900
```

```
3960
aaagaaagaa aaagaaagaa aagaaaaaga aaagaaatat ctgctctatt ccacagcaga
agggttgacc actttgatct aatctgtttc ctttttcata ggaaacccag aagttctgtg
                                                                   4020
                                                                   4080
aacaagtcca tgctgccatc aaggcattta ttgcagtgta ctatttgctt ccaaaggatc
agggtaagcc acataagtgt tgcatttatc gtgtagatct ttgctaatat tgtggattat
                                                                   4140
gtcttgtgac ttttaccttt acccaacttg aacatgtaac tttctcccat aaaatacagt
                                                                   4200
gaaggataat tttgtaatgt aagtgactta tataaacaag ccattattct aagatacaga
                                                                   4260
4320
ctcacagcct tctccctctt caacccgttt taacaccaca gatactggct ggctctcagc
                                                                   4380
cccatatgca ggctcaggcc atccttactt tcctccaccc atgttatatc tcaccctatt
                                                                   4440
tctgaacatc tgcataggtt aaatggcctc cagccctgcc tgtagaatca tgcattgatt
                                                                   4500
ataatcatgc caaaattata actgaataca tgtcatggat cttcagggtt actcaagtgg
                                                                   4560
                                                                   4620
cttaaacttc aagtgtttca tctacagttg ttaagagatc acggtcctta atgaatgaat
                                                                   4680
acatggtgtc acggaaagat tttgttccaa atctcttttg aagaaaacac taaggaatgg
                                                                   4740
caggaggggc aagaaaatgc catggggata taagtaagac ctgagttttg tgttagcatg
                                                                   4800
taggttaaag catgtgggtg tacattacct tatagttctg taatgcttag actcaggaaa
gcagatggtg cttctgaaaa gaacaccagg ttgcttattc tttgggtttg gccacaggga
                                                                   4860
                                                                   4920
tcaccctgag aaagctggta cggggcgcca ccctggacat cgtggatggc atggctcagc
                                                                   4980
tcatggaagt actttccgtc actccaactc agaggtagtg atgccacagt ttaggttacc
agttattggg gttccttgcc tcagagggga aaagctcatt ttaacagcaa agttactgac
                                                                   5040
agctgagagt aatgaccagc aggaagaagc tttttaggag acaggaacct aggttattaa
                                                                   5100
                                                                   5160
tatatcctta ctgatttctt tccccagccc tgagaacaat gaccttattt cctacaacag
tgtctgggtt gcgtgccagc agatgcctca gataccaaga ggtgagtgaa agtgggcagt
                                                                   5220
gggccatgtc tgctggccaa agcaaagaga cctcatgtct agcttccagc tttgtaacat
                                                                   5280
                                                                   5340
gtatttgaat ttatataaac agtctagtga aatatatat ttttattaat gaaattaata
                                                                   5400
ggtaggtatt aatacttttt gtcattctct agttatcata cttctaaatt ccactccccc
                                                                   5460
ttgctgtggc tgtctcttgt tgaacaagta tggtttgttt tcctagtcct accccaagag
                                                                   5520
tagtattatg gagcacactg aagcagttat gaggtagaga cagctaggcc aaaacagtgg
ttgtccaaga ggaccatgat gataaacatc atgtgaccat tttatttctt cttgtgaata
                                                                   5580
                                                                   5640
aaatacaagc tttttaaacc cctatctaga taccagggga tgtagtgaga atttttatt
aaacccgcac ccttgtcaac cgtccttggc actcccatca ataggaacaa tgtgattgtt
                                                                   5700
ccttgcagtc ataagaaaat tgttggattt ctcctctaat tctagtgctt ctgatttttc
                                                                   5760
actcatagat aacaaagctg cagctctttt gatgctgacc aagaatgtgg attttgtgaa
                                                                   5820
ggatgcacat gaagaaatgg agcaggtgag gggacctcca tcattggaag gcaactcctt
                                                                   5880
gactagtaga tgagaattaa ttataaagag agatttcctg agcattgacc agataggtcc
                                                                   5940
cattctcact actgtcctct gtcttccatc tcccactgct tgttagtgtt tgatttagta
                                                                   6000
                                                                   6060
ccactcctct gtgttccctt actggacaag gagagcgaga acagggttta tgaagtgatt
caactctgta gcccttagtg aagtggctgg ctaagatttt tggacaacta agacatcgtg
                                                                   6120
6180
atcatggtat gtcttaggct gtggaagaat gtgaccctta ctctggcctc ttgaatgata
                                                                   6240
ctgaggagaa caactctgac aaccacaatc atgaggatga tgtgttgggg tttcccagca
                                                                   6300
atcaggactt gtattggtca gaggacgatc aagagctcat aatcccatgc cttgcgctgg
                                                                   6360
                                                                   6420
tgagagcatc caaagcctgc ctgaagaaaa ttcggatgtt agtggcagag aatgggaaga
                                                                   6480
aggatcaggt ggcacagctg gatgacattg tggatatttc tgatgaaatc agccctaggt
aagcgggatc cccacttgaa acatctgagc agcagcgttc tgatttcaat ttgtgttgtc
                                                                   6540
                                                                   6600
acctcaaggt tttcacagtt tttttatatt ttgaaatttt tcaaacctat aggaaagttt
aaaaagtacc ttcagtgaac acccctatat ccttctatta gatttgcctg ttgttcacat
                                                                   6660
                                                                   6720
tttttcctat attggtttat ttctcaagag atactgtttc atatttattc cagaatgttt
                                                                    6780
tgagagtaaa ttgcagacag caatgacatt tcacccctaa atacttcagt atgtatctcc
tgaagtactc ttattcctac tcttattatc acatccaaga aatttgacat tgaatataat
                                                                    6840
agtattatct aatattcaga tttccccagt tgtctgtatc taaaatgtca tataaattca
                                                                    6900
gggttctgtc aaggtcccac attgcattta attgtcatct ctttagtctc ttgaaatcta
                                                                    6960
gaacagttcc tatcctttgt agtctttttt aatcaacatt ttaaaaagaa accaggacag
                                                                    7020
                                                                    7080
ttgtcttgta aaatatccaa caacctggat tcacgtgatt gttagttctc atttttgcaa
gaatatcata taattaagtg ttttgtacat ctcattttat catattaggg aggcacatga
                                                                    7140
                                                                    7200
tgttggtttg cctcattatt ggtggtacta aatttgatca cttaaagtgg tgctcacttt
agtaaaggta tattttactc taattttagc ttccactgat gaaggctgcc tgcctatatt
                                                                    7260
agttattaaa ctgatggttt cacatcctca catttttgac tgaattgatc atgcacccta
                                                                    7320
                                                                    7380
ctatgaacca agggaatttc ccccccagct tcctagtgaa atggggtatg gttgtttcaa
 taaagactgg ttgaactcat tctgtattgg ttgcccagtt gcccaatttt aaaaactgac
                                                                    7440
                                                                    7500
aggcatttct gggacagttt ctcactgttg acatccatag ttgtgtacta gaaacaacct
ggctgcgttt ttttgttaat gattactttt gttttctgct cttagtgtgg atgatttggc
                                                                    7560
```

```
tctgagcata tatccaccta tgtgtcacct gaccgtgcga atcaatgtaa gtactggctt
                                                                   7620
                                                                   7680
tgagggaata gctacagaac aaatgggcag aatttcacta atcactagta tttcctgtaa
                                                                   7740
gctatagggt acatatttat tagtcacatt tggatggaag tacaacagta atgtcacagt
                                                                   7800
tcttgcatgc gtttggggtt gataaatatt cactgaagtt gaattataat agccatgagc
                                                                    7860
tttggtagtt ctctctcca taatcacctg ggtaatcatt cagaaaagcc caaaggcctt
                                                                    7920
agaaaatgat gctttaaggc tgggcgcggt agctcacacc tgtaatccca gcactccagg
aggcggaggt caggagttga gaccagcctg gccaacatgg cgaaaccttg tctctactaa
                                                                    7980
gaatacaaaa attagccggg catcatgcac ctataatccc agctacttgg aaggcttaag
                                                                    8040
caggagaatc gcttgaagcc gggaagtgga ggttgcagtg agccgacatc gcgccactgc
                                                                    8100
8160
aaaaaaaagc ttctttgaaa agaaagtctt aattacacgg taatttagga acttctcaac
                                                                    8220
ttgaagtcac aagtttctaa tttctagact aggcagcaat tagattgaac ttcagctgtt
                                                                    8280
catgaagtag ctggctgagg tcacatgttt ctgatttcta gacaaggcag aaataagtgt
                                                                    8340
                                                                    8400
tccagaaaca tactctgttc taatacaaac acattgtgtg atttaactat ggagagtcaa
ctttcttata aaaatctgat tttattgtat tctttgaggt tctgtgccct ttactagaga
                                                                    8460
gagttctgtt ctctctaatg ttattggaaa gagcagtaaa actgccaaat ggcttatatt
                                                                    8520
ttacaattga atgtatcaat tctagtaata tttgataaat tggataatgg aaattagatt
                                                                    8580
                                                                    8640
catcagatgt gtcttcatga tgtataaaca ccttgaagta gaataggatc cttttgggca
                                                                    8700
ttaacatttt tttggcatta acttttaaaa aattgacttc ctaagaaata aacattttta
                                                                    8760
gcaatatgcc tagtcagcta tcccaaacat agtatctgct ctagcaattt taaaatgtgt
actgcatatg catcttatat gtattgatat tttatattaa acgtctccat cttatcctta
                                                                    8820
tattggtgtt cttaaaattc ttaatgcgct ttttttttt tttttttt tttttttt
                                                                    8880
                                                                    8940
aaaggaacct tagtcatttc tgctttatat tttgagctat cagcatttgg gaccaattca
                                                                    9000
ggttacattt tcctttttct gtcctttttt aaattgaaaa tattttagat ctaaaaaaatc
                                                                    9060
ttattaaaat gttatagcaa tagtattaat aagatcttgc taaatagaaa agaacccgta
                                                                    9120
atcctgccac cctaacctaa tcagcatttt aaattttgca tacttccttc aggtcctttt
tctaaataat ttttttatta cttgggtctt taaaaatatt tgaactcacc tttttatggt
                                                                    9180
agggctcagg gtgaataact tctgtgtttc ttttctagtc tgcgaaactt gtatctgttt
                                                                    9240
                                                                    9300
taaagaaggc acttgaaatt acaaagtaag tatgaagact tctcagatag ctttttgtga
gtaaaacgga actgctgtcc agacgttctc aactccctag ctcccatttc aaggagtggg
                                                                    9360
aaagggtggg tgtgggattt tctttcagct tcagttgtgg ggcagctgag attctgcaaa
                                                                    9420
gaagcttccc tttaaaaaaa ttttagtttt ccctgtgctc cctcctgagg ataggttttc
                                                                    9480
ccttgacatc ctaataagtt taacttactt ctttcctatt ctattcacag agcaagtcat
                                                                    9540
                                                                    9600
gtgacccctc agccagaaga tagttggatc cctttactta ttaatgccat tgatcattgc
                                                                    9660
atgaatagaa tcaaggagct cactcagagt gaacttgaat tatgactttt caggctcatt
                                                                    9720
tgtactctct tcccctctca tcgtcatggt caggctctga tacctgcttt taaaatggag
ctagaatgct tgctggattg aaagggagtg cctatctata tttagcaaga gacactatta
                                                                    9780
ccaaagattg ttggttaggc cagattgaca cctatttata aaccatatgc gtatattttt
                                                                    9840
                                                                    9900
ctgtgctata tatgaaaaat aattgcatga tttctcattc ctgagtcatt tctcagagat
                                                                    9960
tcctaggaaa gctgccttat tctctttttg cagtaaagta tgttgttttc attgtaaaga
                                                                   10008
tgttgatggt ctcaataaaa tgctaacttg ccagtgatta aatgagtg
<210> 12738
<211> 4636
<212> DNA
<213> Homo sapiens
<400> 12738
caagacaaaa tgacaataat aataataata atacctagaa actcacacac tgagaatggg
                                                                      60
gcagtaaata ataataggga ggatagaaaa gtcagcatgg cattccagat gagaaaactg
                                                                     120
aagcaagtta aactttctac atggtaaccg tgattatgta gttgatatac aaagtaatga
                                                                     180
ctgtgggcct tcaagaagag gttaaaatac attcattata ttaacgagtg catcttagaa
                                                                     240
agatttcttt caaaaagtag ttgaagtttt tttgctttaa ggagtaaatc tcaatcatct
                                                                     300
                                                                     360
qqaaatttaa cttctgtgga atacctcttt acatcttaaa ggaaatgtta atgcattata
                                                                     420
ttgaggttat tattgcaatg gaattttcaa aaatgtgagt gtgctttttt tgtttctaga
atctataaga cacatatctg ttctaggtat agtgtctact aagacaattt cacaatccaa
                                                                     480
aaaatagttg gttagcaagg atatcaagta caacacagag actagcaaag agggaaggct
                                                                     540
atgaaataaa atgcttatag atggctagtc tcatatctct gctttattcc tataaatgta
                                                                     600
                                                                     660
 tctcatgata tatgtaatca gaattatagt tatttaatct cctccttttt tgtccattgc
ctcttttagg tccatggttt tttggtgaaa tcattgatgg caaatttggt tgctgctttt
                                                                     720
```

```
780
cctttgggat atttgttaat ggacatttcc tacaaggcag cataacattt ataattggaa
                                                                      840
ttctccaggt aagaagtcag aaaagcaatt taagaacatc ttggacttgt cagactaatt
                                                                      900
gcataacagt tatgaattaa atccaaaatc cagaattaag taccatagat catctttcct
                                                                      960
actttacttg cagggcagtc tttaataaaa gcttcatttg cttttaaagt gcttcctaaa
                                                                     1020
ctccttccac cactctcatg taaacatcta aaatacattt ttttttcccc aagacagtgt
                                                                     1080
tctgctgtcg cccaggctga agcacagtgg tgcaatcttg gctcactgca gcctccacct
cttgggttcc agcgattttc ctgcctcagc ctcctgggta gctgggatta caggcatgtg
                                                                     1140
ccaccatgcc tggctaattt ttgcactttt agtagagaca gggtttcacc atgttgggca
                                                                     1200
ggctggtctc gaactcctga cctcagatga ttcacctgcc ttggcctccg aaagtgctag
                                                                     1260
gattataggc gtgagccacc atgcctagcc taaaatacat ttttgtcatg aagtgtttat
                                                                     1320
aagaggtgaa agaagttttt gttgtttttg_tttcactgtg ctttttcatt gacaaaaaa
                                                                     1380
tgaaacaagg gattatggta gaaaaagttt tagatttctg agtaaaccaa aactgattat
                                                                     1440
gatgatgaag aaggaaaata ttttagaggg aggaaactaa aaaatagaca cattaaaaaa
                                                                     1500
                                                                     1560
atgggtcagt tattcagtgg aaactgcatt attcaaaaac cagacctggg ctttcctagc
                                                                     1620
aatgtacttg tttaggaaac aaactgatgt attaggttta catttgattc ctttaaaata
                                                                     1680
aacacacaaa gaaccttgat ccatagaaaa actacataaa cagatttgaa aagtatttat
ctaacagttt ctttatttta ctcacctaat ggagttagtg gaccaaaatt tgaagttttg
                                                                     1740
gaagagatcc aaaaacattc aaaataagtt catggccttc taacagggca gtagaacatg
                                                                     1800
                                                                     1860
atccaacagg attagagaca gccaagtagg aaagacttct gcctagcaaa cactgaccca
                                                                     1920
agtccagaat attctctgca tagcagcatt atatacatga gtaggtcctg ggttcatttc
agttttcttt tctttcttt tctttcttt tttttttttg agatggagtc tcgatcttgt
                                                                     1980
                                                                     2040
cgtccaggct ggagtgcaat ggcatcgtct cggctcactg caacctctgc ctccctaatt
                                                                     2100
caagtgattc tcctgcctca gcctcccatg tagctggggt tacaggtgcc tgccaccatg
                                                                     2160
cccggctaat ttttgtattt ttagtagaga cagggtttca ctgtgttggc caggatggtc
                                                                     2220
tcgaactcct gacctcaggt gatccgcccg tctcggcctc ccaaagtgct gggattacag
                                                                     2280
gcgtgagcca ctgcacccag cctcattgca gttttctatt atgttgatgg aggctgtctc
                                                                     2340
taaggagctc tctcatacca aatgaatcct gagccttacc aaaaggcagg gttttttcct
                                                                     2400
ttgtaaatgt ttacattcat attctaataa atagtacact aataatggat tttatgtatc
                                                                     2460
atccagaccc atgaatccca aatctatatc tctgatctag acctcttctc tgcacttcaa
                                                                     2520
gtgcctctat atccaatggc cacagatgtc taacaggcat ctcaacttca tgtgatgtct
ctctgatagg aacattattt ccaccccaaa cctgttcctc tctgtttttc cagttttaat
                                                                     2580
                                                                     2640
aaatgactcc accattcacc tgatttctcc aagatgtatc ctcaattatt ccctttcctt
cataccctgt atctatttca ccagcaagct ctaccttatt tgatctgctt ccaatgcata
                                                                     2700
tcttgaatcc atccacttct ctccatttct gttttcctaa tctaagttgt aattatttct
                                                                     2760
tgcctgggtc ttctccctga tattcttgcc tccttactct cagcttaata cagagcatcc
                                                                     2820
                                                                     2880
agtgtgctct tttaaaaact ttacaatcag ctcacttact tttcagcttg aaatgctttg
aagcagagca gtgatctggg tcctgccgac tgccccaatt tccacctggc tcatgctctg
                                                                     2940
catgcacttc cttaaagagg ccaagacctc tcccacctct gggcttttca tttgttcctt
                                                                     3000
                                                                     3060
ctgcctagaa tgcacttccc tccgctgatt cattcttgtc cttctggcct ctgagagcct
                                                                     3120
ttctcccagt taccttctca tgacccagtt ctttccttca ttgaactaat cacgatctgt
                                                                     3180
aattatattt tttggttttt ttttttgtct gtcttctccc tgttagaatg taagctctat
                                                                     3240
gacggacctt ttctaacttg tttgccattg tgtccccaac ttggagccta gctcatgcct
gctacataat gggtgctcaa taaatatttg ttaaatgaat gaatcataca gcagctcaac
                                                                     3300
ttggattata atttagatac tctaatttat attccagtac ttatcatgct acctcaaaca
                                                                     3360
                                                                     3420
aaaatggagg taagaaaaaa aatactgata gccaagtcct cccctcactc caccaaaaaa
gaggggttgt tgtatgtgtg tgtatacatt tactcagttc aattccagct taacaccatt
                                                                     3480
gggtattaac tgtgtatatg atactgtact acaagttggg acttcagcat aaattaaatg
                                                                     3540
atacctgcct ctaagatgaa taaaaggaca tgggcaaata cacaactagc cacaagtcag
                                                                     3600
ctgttgtgtt ataagcaact gtgcttgaag taaattagct aacgccaaga cagatagcag
                                                                     3660
catagtetta ggatecaeta ataatgeatt attaagaeea aaetetteea aggaettggg
                                                                     3720
                                                                     3780
agtaagctat ggttctgttc ttttccagct ggcgtttttt aacatcccct tgatggctta
                                                                     3840
catgtgttgg agcttgctgc agcggtgctt tggtcacaac ttcaggtctc atctccatca
                                                                     3900
aagaaaatac ttgaaaatta tgcctgttca cctacttatg ctactgctgt acatctggca
ggtttattcc tgctactttc tttatgcaac atacggcacc ctagcttttt tattctcccc
                                                                     3960
tttgcggacc tggttgacac tgctgacacc tgttctcatt cgttatgtgt ggacactgaa
                                                                      4020
ctccaccaag tttggaatct tcatggtgca gttaaaaagc cacctgagct cctgaaggcc
                                                                      4080
                                                                      4140
atgtctcacc actggcagct gggcagaagc ccagcctctg tgtctgtagc ccaggcctct
                                                                      4200
accccagtag caggtggagg gccaggattg gtgggtgagc tttagggagc agctgctcgt
ttggagtcct ggacgttgga gggattaccc actactgata cctgcagaat ggactgcaga
                                                                      4260
aaagtctcaa aaataatgcc tttattcctt ccctccctaa ggaggcaaag agttgattta
                                                                      4320
cctttgtgaa gagaaaaccc ttatctagga catccacagg gtagaggttg ggtgtgtgta
                                                                      4380
```

```
cgggagtgtc tgaggcccag tgtgtttttt agggttaccc catgtaaagc acttaccgct
                                                                     4440
gtgcttggaa ttcagcagct gtcaaaggtg caatttcagg ggcagggaac ctttgaggat
                                                                     4500
ctgggcccga ccctcactac ccctgagata ttagttccca ggcctgtttt cccacaggat
                                                                     4560
tgtgggctct ctgcttcctt agtcggaagt gttttcaact aatcaaataa atgaatgaat
                                                                     4620
                                                                     4636
gatgaataag aaagac
<210> 12739
<211> 567
<212> DNA
<213> Homo sapiens
<400> 12739
                                                                       60
tccttttgta ggtgtaattc ataacatatg cctttctgct gtctttaggt ataatcagca
acagcagtca ttctttgagt gactaatgta tacttggggt tggggttgaa attccttaag
                                                                      120
                                                                      180
ccaaatgagt tttagcttac tgttttgaag tgccattttg tattgttaac aagtgtcatg
                                                                      240
aagggaagga actaaaatca aactgacaga gtgtcaaggc aacaaaataa cataaacaaa
                                                                      300
ataataacat tgtacaacag tctagttctt ttatcctttc atatagagcc tatttttat
atacttttat atttctctac tggaccaaat tcatgttatt aacatcagac tttaattgtg
                                                                      360
ggatacttaa tgaatataga actctaatat aaagacttac ctctagctga attattctct
                                                                      420
caggtcctgt attgtataac ttcgttcagt catgtttgga tctttaagga taatgatcag
                                                                      480
ggaaagcact gatcaatgta atttttttt tttttttt tttttttt tttttgagat ggagtcttgc
                                                                      540
                                                                      567
tctgtccccc aagctggagt gcagtgg
<210> 12740
<211> 4636
<212> DNA
<213> Homo sapiens
<400> 12740
caagacaaaa tgacaataat aataataata atacctagaa actcacacac tgagaatggg
                                                                       60
gcagtaaata ataataggga ggatagaaaa gtcagcatgg cattccagat gagaaaactg
                                                                      120
aagcaagtta aactttctac atggtaaccg tgattatgta gttgatatac aaagtaatga
                                                                      180
ctgtgggcct tcaagaagag gttaaaatac attcattata ttaacgagtg catcttagaa
                                                                      240
agatttcttt caaaaagtag ttgaagtttt tttgctttaa ggagtaaatc tcaatcatct
                                                                      300
ggaaatttaa cttctgtgga atacctcttt acatcttaaa ggaaatgtta atgcattata
                                                                      360
ttgaggttat tattgcaatg gaattttcaa aaatgtgagt gtgctttttt tgtttctaga
                                                                      420
atctataaga cacatatctg ttctaggtat agtgtctact aagacaattt cacaatccaa
                                                                      480
aaaatagttg gttagcaagg atatcaagta caacacagag actagcaaag agggaaggct
                                                                      540
atgaaataaa atgcttatag atggctagtc tcatatctct gctttattcc tataaatgta
                                                                      600
tctcatgata tatgtaatca gaattatagt tatttaatct cctccttttt tgtccattgc
                                                                      660
ctcttttagg tccatggttt tttggtgaaa tcattgatgg caaatttggt tgctgctttt
                                                                      720
                                                                      780
cctttgggat atttgttaat ggacatttcc tacaaggcag cataacattt ataattggaa
ttctccaggt aagaagtcag aaaagcaatt taagaacatc ttggacttgt cagactaatt
                                                                      840
gcataacagt tatgaattaa atccaaaatc cagaattaag taccatagat catctttcct
                                                                      900
actttacttg cagggcagtc tttaataaaa gcttcatttg cttttaaagt gcttcctaaa
                                                                      960
ctccttccac cactctcatg taaacatcta aaatacattt ttttttcccc aagacagtgt
                                                                     1020
tctgctgtcg cccaggctga agcacagtgg tgcaatcttg gctcactgca gcctccacct
                                                                     1080
cttgggttcc agcgattttc ctgcctcagc ctcctgggta gctgggatta caggcatgtg
                                                                     1140
                                                                      1200
ccaccatgcc tggctaattt ttgcactttt agtagagaca gggtttcacc atgttgggca
ggctggtctc gaactcctga cctcagatga ttcacctgcc ttggcctccg aaagtgctag
                                                                      1260
                                                                      1320
gattataggc gtgagccacc atgcctagcc taaaatacat ttttgtcatg aagtgtttat
                                                                      1380
aagaggtgaa agaagttttt gttgtttttg tttcactgtg ctttttcatt gacaaaaaa
                                                                      1440
tgaaacaagg gattatggta gaaaaagttt tagatttctg agtaaaccaa aactgattat
                                                                      1500
gatgatgaag aaggaaaata ttttagaggg aggaaactaa aaaatagaca cattaaaaaa
atgggtcagt tattcagtgg aaactgcatt attcaaaaac cagacctggg ctttcctagc
                                                                      1560
                                                                      1620
aatgtacttg tttaggaaac aaactgatgt attaggttta catttgattc ctttaaaata
                                                                      1680
aacacacaaa gaaccttgat ccatagaaaa actacataaa cagatttgaa aagtatttat
                                                                      1740
ctaacagttt ctttatttta ctcacctaat ggagttagtg gaccaaaatt tgaagttttg
                                                                      1800
gaagagatcc aaaaacattc aaaataagtt catggccttc taacagggca gtagaacatg
```

```
atccaacagg attagagaca gccaagtagg aaagacttct gcctagcaaa cactgaccca
                                                                   1860
agtccagaat attctctgca tagcagcatt atatacatga gtaggtcctg ggttcatttc
                                                                   1920
                                                                   1980
cgtccaggct ggagtgcaat ggcatcgtct cggctcactg caacctctgc ctccctaatt
                                                                   2040
                                                                   2100
caagtgattc tectgeetea geeteecatg tagetggggt taeaggtgee tgeeaccatg
                                                                   2160
cccggctaat ttttgtattt ttagtagaga cagggtttca ctgtgttggc caggatggtc
tcgaactcct gacctcaggt gatccgcccg tctcggcctc ccaaagtgct gggattacag
                                                                   2220
gcgtgagcca ctgcacccag cctcattgca gttttctatt atgttgatgg aggctgtctc
                                                                    2280
                                                                    2340
taaggagctc tctcatacca aatgaatcct gagccttacc aaaaggcagg gttttttcct
                                                                    2400
ttgtaaatgt ttacattcat attctaataa atagtacact aataatggat tttatgtatc
                                                                    2460
atccagaccc atgaatccca aatctatatc tctgatctag acctcttctc tgcacttcaa
gtgcctctat atccaatggc cacagatgtc taacaggcat ctcaacttca tgtgatgtct
                                                                    2520
ctctgatagg aacattattt ccaccccaaa cctgttcctc tctgtttttc cagttttaat
                                                                    2580
                                                                    2640
aaatgactcc accattcacc tgatttctcc aagatgtatc ctcaattatt ccctttcctt
cataccctgt atctatttca ccagcaagct ctaccttatt tgatctgctt ccaatgcata
                                                                    2700
tottgaatco atcoacttot otcoatttot gttttoctaa totaagttgt aattatttot
                                                                    2760
tgcctgggtc ttctccctga tattcttgcc tccttactct cagcttaata cagagcatcc
                                                                    2820
agtgtgctct tttaaaaact ttacaatcag ctcacttact tttcagcttg aaatgctttg
                                                                    2880
aagcagagca gtgatctggg tcctgccgac tgccccaatt tccacctggc tcatgctctg
                                                                    2940
catgcacttc cttaaagagg ccaagacctc tcccacctct gggcttttca tttgttcctt
                                                                    3000
ctgcctagaa tgcacttccc tccgctgatt cattcttgtc cttctggcct ctgagagcct
                                                                    3060
                                                                    3120
ttctcccagt taccttctca tgacccagtt ctttccttca ttgaactaat cacgatctgt
aattatattt titggtittt tittitgict gicticiccc tgitagaatg taagcictat
                                                                    3180
gacggacctt ttctaacttg tttgccattg tgtccccaac ttggagccta gctcatgcct
                                                                    3240
                                                                    3300
gctacataat gggtgctcaa taaatatttg ttaaatgaat gaatcataca gcagctcaac
ttggattata atttagatac tctaatttat attccagtac ttatcatgct acctcaaaca
                                                                    3360
aaaatggagg taagaaaaaa aatactgata gccaagtcct cccctcactc caccaaaaaa
                                                                    3420
                                                                    3480
gaggggttgt tgtatgtgtg tgtatacatt tactcagttc aattccagct taacaccatt
                                                                    3540
gggtattaac tgtgtatatg atactgtact acaagttggg acttcagcat aaattaaatg
                                                                    3600
atacctgcct ctaagatgaa taaaaggaca tgggcaaata cacaactagc cacaagtcag
                                                                    3660
ctgttgtgtt ataagcaact gtgcttgaag taaattagct aacgccaaga cagatagcag
                                                                    3720
catagtetta ggatecaeta ataatgeatt attaagaeea aaetetteea aggaettggg
agtaagctat ggttctgttc ttttccagct ggcgtttttt aacatcccct tgatggctta
                                                                    3780
                                                                    3840
catgtgttgg agcttgctgc agcggtgctt tggtcacaac ttcaggtctc atctccatca
                                                                    3900
aagaaaatac ttgaaaatta tgcctgttca cctacttatg ctactgctgt acatctggca
                                                                    3960
ggtttattcc tgctactttc tttatgcaac atacggcacc ctagcttttt tattctcccc
                                                                    4020
tttgcggacc tggttgacac tgctgacacc tgttctcatt cgttatgtgt ggacactgaa
                                                                    4080
ctccaccaag tttggaatct tcatggtgca gttaaaaagc cacctgagct cctgaaggcc
                                                                    4140
atgtctcacc actggcagct gggcagaagc ccagcctctg tgtctgtagc ccaggcctct
                                                                    4200
accccagtag caggtggagg gccaggattg gtgggtgagc tttagggagc agctgctcgt
                                                                    4260
ttggagtcct ggacgttgga gggattaccc actactgata cctgcagaat ggactgcaga
                                                                    4320
aaagtctcaa aaataatgcc tttattcctt ccctccctaa ggaggcaaag agttgattta
                                                                    4380
cctttgtgaa gagaaaaccc ttatctagga catccacagg gtagaggttg ggtgtgtgta
cgggagtgtc tgaggcccag tgtgtttttt agggttaccc catgtaaagc acttaccgct
                                                                    4440
                                                                    4500
gtgcttggaa ttcagcagct gtcaaaggtg caatttcagg ggcagggaac ctttgaggat
                                                                    4560
ctgggcccga ccctcactac ccctgagata ttagttccca ggcctgtttt cccacaggat
                                                                    4620
tgtgggctct ctgcttcctt agtcggaagt gttttcaact aatcaaataa atgaatgaat
                                                                    4636
gatgaataag aaagac
<210> 12741
<211> 567
<212> DNA
<213> Homo sapiens
<400> 12741
tccttttgta ggtgtaattc ataacatatg cctttctgct gtctttaggt ataatcagca
                                                                      60
acagcagtca ttctttgagt gactaatgta tacttggggt tggggttgaa attccttaag
                                                                     120
                                                                     180
ccaaatgagt tttagcttac tgttttgaag tgccattttg tattgttaac aagtgtcatg
                                                                     240
aagggaagga actaaaatca aactgacaga gtgtcaaggc aacaaaataa cataaacaaa
ataataacat tgtacaacag tctagttctt ttatcctttc atatagagcc tatttttat
                                                                     300
```

```
atacttttat atttctctac tggaccaaat tcatgttatt aacatcagac tttaattgtg
                                                                      360
ggatacttaa tgaatataga actctaatat aaagacttac ctctagctga attattctct
                                                                      420
                                                                      480
caggtcctgt attgtataac ttcgttcagt catgtttgga tctttaagga taatgatcag
                                                                      540
ggaaagcact gatcaatgta atttttttt ttttttttt ttttttgagat ggagtcttgc
                                                                      567
tctgtccccc aagctggagt gcagtgg
<210> 12742
<211> 7784
<212> DNA
<213> Homo sapiens
<400> 12742
accacaagtc ctgaagagaa aagaaaaatc attggggata cttttgttaa ggtacctttg
                                                                       60
tttttaatat cctcaacatg tactattttt gatgtgaatc ttagtatttg tttttccttg
                                                                      120
tcactatatc aaataaccaa attagctaat tttaatcctt tttcttatgt ggctgagagt
                                                                      180
tttattgtat attgtcatta tattgaccag tagaaactgt tttatgtttt tttgttgttg
                                                                      240
tttggttttt tttttgtttt tttgagacag agtcttgctg tgtcaccagg ctgggctgga
                                                                      300
gtgcagttgc acgatctcgg ctcgctgcaa cctctgcctt ctgggttcaa gtgattctcc
                                                                      360
tgcctcagcc tcctaagtag ctgggactac aggggtgcac catcatgccc agctaatttt
                                                                      420
tgtactttta gtagagacgg gggtttcacc atgttggcca ggttggtccg gatctcctga
                                                                      480
                                                                      540
cctcatgatc cgcccgcctc agcctcccga acttctggga ttacaggtgt gagccactat
                                                                      600
gcccagccaa ctgttttatg ttttaataaa catgtttgcc tacattgcca ggctattatt
ttaagaatag atgtctttaa gagtagatgt attcagctta tcatagactt taattcattg
                                                                      660
                                                                      720
attatctcaa tggctaattt caagctcttg aatggaatgt tcacatacct ttgtttttgt
                                                                      780
ttttttttt ttttggaggc ggagttttgt tcttgtcact caggctggag tacaatggag
cgatcttggc tcacggcaac tttcacctgc tgggttcaag cgattctcct gcctcagcct
                                                                      840
                                                                      900
cccgagtagc tgggattaca ggcatgcacc accatgccca gctaattttt ttctttttt
                                                                      960
gagatggagt ctcactctgc cgcccaggct ggagtgtagt ggtgcaatct tggctcactg
                                                                     1020
caaactttgc ctccagggtt caagcgattc tcctgcctca acttcctgag tagctgggat
tacaggcgtg tgccaccatg cccggctagt ttttgtattt ttagtagaga cggggtttca
                                                                     1080
ccatgttagt caggctggtc tcaaactcct gaccttgtga tctgcctgcc ttgcctccca
                                                                     1140
aagtgctggg attacaggcg tgagccacca cacctggcca ctaattttgt atatttagta
                                                                     1200
gagatggtgt ttcatcatgt tggccaggct ggtctcgaac tcctggcctc aagtgatcca
                                                                     1260
ccccactcag cctcccaaag tgctgggatt acaggcgtga gccactgtgt ttggcctcat
                                                                     1320
gtaccttttt gaatcgtgtt agaggacatg ttcattaagg agtttatttt ggagattggt
                                                                     1380
                                                                     1440
ggattttatt ttctgatcag tatttctaaa ggactctaag agatttagct gaaagtataa
acttttgctt ttaaaaaaag ttatctctta caaggctgtt ttactcctgt tgattataga
                                                                     1500
ttgccaatga agtaattgga gaaatgaact tgaaaccaga ggaggttttc cttgcccaag
                                                                     1560
gtactttacg gcctgatcta attgaaagtg catcccttgt tgcaagtggc aaagctgaac
                                                                     1620
                                                                     1680
tcatcaaaac ccatcacaat gacacagagc tcatcagaaa gttgagagag gaggtaaaag
tttatgaaaa ctttttcata aagtagatac atggaaagtc ttccattctt ccctcctctt
                                                                     1740
ccctctaata ttcacagaat tgcataacca tcaccacatc taattttaga acattttcct
                                                                     1800
taccctaaaa aggaacctta tacccattag cagtcactcc tcgttctacc tgttgttgtc
                                                                     1860
attgtcatcc tgccccacc ccccagctcc tcctttcctc ctttcttgcc agccctaggc
                                                                     1920
aattaccaac cactaattta ttttctgtct ctatagattt gcttattttg ggcattttat
                                                                     1980
ataaatggaa tggtacaata tgtggtcttt tatgactggc ttcttttact taccgtaatg
                                                                      2040
ttttcaaggt tcatccatgt tgctgcatgt atcagaactt tattcctatt tattgccaga
                                                                      2100
                                                                      2160
taatattcca tcttatgggt ataatgcatt gtatttatcc tttgatcagc tgatgggctt
ttgggttatt tccacttttt ggctgttata agtaatgccg ccatgaatac tggtcataag
                                                                      2220
                                                                      2280
tttttgtgga tatgtgtttt tatttctttt ggtatatgcc tgggagtaga attgctaggt
cttaaggttt aacattttga tgaattgcca aactattatt taaaatgatg atacaatttt
                                                                      2340
acattcgcac tagcaatcta tgagattcaa atttttccac atcctcacca agacttgttg
                                                                      2400
ttatctcttt tcttattgta aaaaacacat aacataaagc ttaccatctt aactctgatt
                                                                      2460
                                                                      2520
ttttttttt tttgagacag agtctcactc tattgcccaa gctggagagc agtcatgcga
cctcggctca ctgcaacctc tgcctcccgg ttcaagagat tctgctgcct cagcctctca
                                                                      2580
                                                                      2640
agtagctggg attacaggca tgcgccacga ggcccggcta attttgtatt tttagtagag
atggggtttc actatgttgg ccaggctggt cttcaactcc tgacctcagg tgatccgcct
                                                                      2700
gcctctgcct cccaaagtgc tgggattaca ggtgtgagcc actgcatcca gcctcatctt
                                                                      2760
aactattttt aagtatatag ttcagtagtg ttaggtgtat tcacattgtt gtaaaacaga
                                                                      2820
tcttcagaac ttttcatctt gcaaaacaaa ctctataccc gttaaaaaac aactctccct
```

2880

tttttctggc ccccaccctc tggtaaccac cattctgctt tctgtttcta tgtttcacta 2940 3000 ctttaaatac ctcatatagg tggaatcata cagtattgcc tttttgtgac ttgcttattt 3060 cacttagcat aatgtcctta aggttcattc atgttgtagc atgtgacaga atttccttct 3120 tttttaagac tgaaaaatgg gccaggcaca gtggctcatg cctagcgctt tgggaggctg 3180 aggcgggtgg atcacctggg gtcgggagtt tgagaccagc ctggtcaaca tgatgaaacc 3240 ccgtctttac taagaataca aaaattagcc aggcgtgatg gcgggcatct ataatgccag ctccttggga ggctgaggca ggagaatggc ttgaaccctg gaggcggagg ttgcaatgag 3300 ccaagactgc cattgcactc tagcctgggc aacaagagtg aaactctgtc tcaaaaaaac 3360 aaacaaacaa acaaaacaga ctgagtaatg tactactata tgtatataac acattttgcc 3420 3480 tatccatttt tgtttatctt ttggatatat gcccagaatt gggattgctg gatcatatgg 3540 tagttctctt tttaattttt ttgaggaact tattgtccat agcaattgca ccattttaca 3600 atctaaccaa aagtacataa tgactccaat ttttccaaat gcttacaatt tgttattttc 3660 tattttttta tqqttqtqtt atctgacttt taaaaatttt agtcatctgg ctcagcacag 3720 tggctcatgc ctataatccc agcactttgg gaggctgagg caggtggatc acttgaagcc aggaatttga gaccagcctg gccaacatgg tgaaaccctg tatctactaa aaatacaaaa 3780 aaattagcca ggtttggtgg tgcatgcctg tagtcccagc tactctggag gctgaggcag 3840 gagaattgct tgaacctggg aggcagaggt tgcagtgagc caagattatg ccactgcact 3900 cccgcctgag cgacagagcg agactctgtc ttaaaaaaaa gtaaataaaa atgttagtca 3960 4020 tcctagtgta tatgaagtgg tatatctcat tttgatttgc atttccctaa tagctaatga tgttgagcat tttttcatgt tcttgcttat tggccatttg tgtatcttgg agaaatgtct 4080 attcgtatcc tttgctcctt tttttaaaaa ataattttaa gttcgaggat ataagtgtag 4140 4200 gtttgttaca taggtaaact tgtgtcatag gggtttgtta tacagattat ttcatcaccc 4260 aggtattagg cctagtaccc attagctttg cttatttttt aattgactta tttattttt 4320 tattattgag ttgtaaatgt tctttatata ttctggttac aagtctttta tcagatatac gacttgcaaa tgtcttctct agttctgtga gttgtcttca ttttctcaat gataacattt 4380 4440 ggagaattat aattttggaa cactagtata ttttctaatt gctttgtatt ctaatgagaa 4500 ttagatcaga gatgatggat tggtttaccc tgatttattt atatttaaaa agcttatgtt taaaatgtgc ttcaaagaga aataataccc ataagatatt cgtctaattc cttataggca 4560 4620 cttaggaaca aatactttaa aagatgcatt tttagtaata atctgttagt ctaagaaaag tggtaacagg aaaagccaat aatttattac gctttgtttt ccatgtcatc ttggttacta 4680 gtttatattg gttggcttct ttcctccctg tagggaaaag taatagaacc tctgaaagat 4740 4800 tttcataaag atgaagtgag aattttgggc agagaacttg gacttccaga agagttagtt tccaggcatc catttccagg taaaaattag aactgaattt tgtttgattc atctttagac 4860 cttcatgttg aagaaaaatc aattcagaca attctgaaat aatctgtcat ctcagggaat 4920 atgtaacatg agagaaagga aaggatggtt agggaataat tgaaatcttt tgagtatcta 4980 ctgtatttac ttcattttat taaatactca ttttccattg tatctgcatt taagtgttac 5040 5100 attatccttg ggagtctggc atctgatgtt gccatcagat gagaaaacca agacataaag atattttaat aatattgcca cacagtccta gtagtagagc taggatttgt tatattattt 5160 gtaccatacc gcagtgcgtt ccatggaaga tgtgaggatt taaatttagc tctttaaaat 5220 ccttgtccta tgtctgactt gtttgaatgg atgaaccact tattctgtgc agagaattcc 5280 tggcacaatg taactaattc ctgaacaaat aatacttcat ttgctgtcat atagaaaaaa 5340 5400 attagaggtg atacttgttt aaagttagga ctgcaagtct taacctgttt ttgttactag ttcttgagag gttgggcaag tctgtacatc aggttctagc tcactgtaat agtgattagg 5460 ggatgatttg ggagaatgac ctaattgaat tgaaaagcat aataatagcc aacatttctt 5520 aagtactttc tatgtgctag gcactctgct aaatacattt tattgtctta tttaatcttc 5580 acagtggaaa ctactattat cctgttttac agatgaagaa acttagggac agcgactaat 5640 ttgccaaaag ttatgcagat tgaaaggagt ggagccagaa tgatatcccc aataattttt 5700 atctcagagt ttatactctt aatgatcata ttggctccat aaacagcttt acacatgtat 5760 aacctatgtg gtgattagca cttgttctca aatcaagtaa tcagattgag atctttagtc 5820 5880 cctaacctgc atgccggcga agaatggtct gtggaccggt gtggtggctc atgcctgtaa 5940 ccctgagtct actaaaaata gaaaaattag ccaggtgtgg tggcatgtgc ctgtaattct 6000 agctactcgg gaggctgagg caggagaatc gcttgaaccc gggaggcaga ggttgcagtg agacaagatt acaccacagc actccaacct gggcaacaga gcatgactcc atcttaaaaa 6060 aaaaaaaaaa gaaaaaaaaa aaagaaaaga atgatctgtg aatgtaatgg agggaagcca 6120 agtgttctat gtccttggtc attatttcat ctagactcac ttgatgtttt aaaaatctat 6180 tttgtatgtt gagttttcta ttatgtaaga cttcattggc aaaaatggtt ttactgcttt 6240 6300 aaaaactatc ttaagtatgc tgtttattct aaaggtaaag aatggactag ggaattaatt 6360 ggacatagct gaggttttgc ctataactag gcatctcaag tgatgccttt tctgttgtag taaagcagca ggatccagtt ttccatagat ctatgcacac cttgtgtttt tatcaacttt 6420 taagtatttg gtaaaataga ggttgggtac agtggctcat gcctgtaatt ccagcacttt 6480 gggaggccta ggcaggcaga tcacttgagg tcaggagttc cagaccagcc tggccaacgc 6540

```
ggtgaaaccc gatctctact aaaaatacaa aaaattagct gggcatggtg gtgcatgcct
gtactaggta cactggtggc tgctagggga gggtaaggca ggagaatctc ttgaacctgg
                                                                 6660
                                                                 6720
gaggtggaag ttgcagtgag ctgagatcgt gccactgccc tccagcctgg gtgacagaat
                                                                 6780
gagagtctgt caaaataaaa tagaaatacc agttcacatt ttttggtatt aaaaactcac
                                                                 6840
attatttatt agattatgtg tatattttaa cagtataata ccattcctaa aattagattg
                                                                 6900
atagttgaag ctggatgata agtaaggtag ttaattatac tgtcctcttt atgtatatgt
tggaaaattc ccttattaaa aactttggat gagcacatat gttataaact aaaaatattt
                                                                 6960
7020
tcagtggctc atgcctgtaa tttcagcatt tccagaagcc gagcttctgg agttcaagac
                                                                 7080
                                                                 7140
cagcctgaac agcatagtga aacccctatc tttactgaaa aaattagcca ggcatggctg
ccggtgcttg taatccaagc tatttaggag gctgaggtgg gaagactgct tgagctcagg
                                                                 7200
aatttgaggc tgcagtgagc aataattgca ccactgcact ctagccttgg tgacagagca
                                                                 7260
                                                                 7320
agactctatc tcttaaaaaa agggagatag gaatgatagg gagagaatta aacatactgt
                                                                 7380
cttatttgag cctcacaatg gaaactatga tagtattacc ctgttttata gatgaagaaa
cttagggaca gagattaata tgccaaaaag ttatgcagac taaaacgtat gcataattta
                                                                 7440
aatgttgcag cattctaaat gttacaacat ttttagaatg ttgaagcatt ctaaaaaaatg
                                                                 7500
                                                                  7560
ctgagttgaa tgggaaacta atagctacat ttggatactt atgatgggca gatggatttt
aattttggaa aggttttatg ttttgaaact agtggcattt ttatattaga tttttatatt
                                                                  7620
                                                                  7680
7740
aatcagagta atatgtgctg aagaacctta tatttgtaag gactttcctg aaaccaacaa
                                                                  7784
tattttgaaa atagtagctg atttttctgc aagtgttaaa aagg
<210> 12743
<211> 105
<212> DNA
<213> Homo sapiens
<400> 12743
                                                                    60
ttttttgtat ttttagtagt gatgggattt caccatgtta gccaggatgg tcttgatctc
ctgacctcgt gatccacctg tctcggcctc ccaaagtgct gggat
                                                                   105
<210> 12744
<211> 197
<212> DNA
<213> Homo sapiens
<400> 12744
                                                                    60
ggggttttaa tttatgtaat gtgtgtggtc tgaaaattgc aacgaaataa ttttaaagtg
gatctgggtt ggtagtgctt atgggagtta ggcaaggaaa aatgcagatt ctctttagaa
                                                                   120
tatcttcacc taggtcccaa aggattctca tagatagatt tccaacaaat atgaggttat
                                                                   180
                                                                   197
aataaaaaat acaaatc
<210> 12745
<211> 1033
<212> DNA
<213> Homo sapiens
<400> 12745
atttttgta tttttctag agacggtttt cgccatgttg ggcaggttgg tcttgaactc
                                                                    60
ttgaactcct gacctcaggt gatccacccg tctcagcctc ccaaagtgct gggattacag
                                                                   120
                                                                   180
catgagccac tggccgactt ttgcttcctt tacagattac tttgcagatt gacatccagg
ctataccctt gtttatgtga gcgaggctgt gttgtaggca ctggcactat acttacacag
                                                                   240
aagttggcaa cttctcattg ccttgcacaa atgtggataa tagtaataac aaactaatgt
                                                                   300
tgaatgatta gaattttaat cagttcttta aaagtagcca ttattttggc atgttaggta
                                                                   360
                                                                   420
gggagagatt caaattattt atgttatctt cccaacttga gaatggcatt attagatcaa
gccattagac ttatagattg cggaagattt agatgtactt cttaattatg aaaattacat
                                                                   480
ttaccttact caaataaccc catatatacc taaaagtttt aataaactaa agcatgacca
                                                                   540
catgactcaa tcagctgtcc gtaataacct gtggtatagg taggacttag ttgggcaaag
                                                                   600
```

```
ggtgagatgt ggccatcttc acgggctcat aagagataac caaggtccct tcaggtcggc
                                                                      660
                                                                      720
cagcctcatc atgcctcagc tctttctaat cctgcttatt agtaaggtgg atgtttattc
                                                                      780
atttatttat ttggttagtt aaataacagg ccgcaattta ctgtgttact taaattttac
                                                                      840
ttaagtaaaa tttaagaaga agaagaagat gatgactgta aaaacaaagg tgtgaatata
                                                                      900
tttagctata catgagatag gatatcaaat acataaatag ttcaatttgc agttgcacag
                                                                      960
tqccatttca cccaggttaa acaataggaa gactcgatgc atacgtgtca tctgtaaatg
ctctcatgtg aaagaaattg tgaagtaaaa taaagtatct tgagtagaaa tttttctaca
                                                                     1020
                                                                     1033
ttttctcaaa ata
<210> 12746
<211> 1033
<212> DNA
<213> Homo sapiens
<400> 12746
attttttgta ttttttctag agacggtttt cgccatgttg ggcaggttgg tcttgaactc
                                                                       60
ttgaactcct gacctcaggt gatccacccg tctcagcctc ccaaagtgct gggattacag
                                                                      120
catgagccac cggccgactt ttgcttcctt tacagattac tttgcagatt gacatccagg
                                                                      180
                                                                      240
ctataccctt gtttatgtga gcgaggctgt gttgtaggca ctggcactat acttacacag
                                                                      300
aagttggcaa cttctcattg ccttgcacaa atgtggataa tagtaataac aaactaatgt
tgaatgatta gaattttaat cagttcttta aaagtagcca ttattttggc atgttaggta
                                                                      360
                                                                      420
gggagagatt caaattattt atgttatctt cccaacttga gaatggcatt attagatcaa
                                                                      480
gccattagac ttatagattg cggaagattt agatgtactt cttaattatg aaaattacat
                                                                      540
ttaccttact caaataaccc catatatacc taaaagtttt aataaactaa agcatgacca
                                                                      600
catgactcaa tcagctgtcc gtaataacct gtggtatagg taggacttag ttgggcaaag
ggtgagacgt ggccatcttc acgggctcat aagagataac caaggtccct tcaggtcggc
                                                                      660
                                                                      720
cagcctcatc atgcctcagc tctttctaat cctgcttatt agtaaggtgg atgtttattc
                                                                      780
atttatttat ttggttagtt aaataacagg ccgcaattta ctgtgttact taaattttac
                                                                      840
ttaagtaaaa tttaagaaga agaagaagat gatgactgta aaaacaaagg tgtgaatata
                                                                      900
tttagctata catgagatag gatatcaaat acataaatag ttcaatttgc agttgcacag
                                                                      960
tgccatttca cccaggttaa acaataggaa gactcgatgc atacgtgtca tctgtaaatg
                                                                     1020
ctctcatgtg aaagaaattg tgaagtaaaa taaagtatct tgagtagaaa tttttctaca
                                                                     1033
ttttctcaaa ata
<210> 12747
<211> 1033
<212> DNA
<213> Homo sapiens
<400> 12747
                                                                       60
attttttgta ttttttctag agacggtttt cgccatgttg ggcaggttgg tcttgaactc
ttgaactcct gacctcaggt gatccacccg tctcagcctc ccaaagtgct gggattacag
                                                                      120
catgagccac cggccgactt ttgcttcctt tacagattac tttgcagatt gacatccagg
                                                                      180
ctataccctt gtttatgtga gcgaggctgt gttgtaggca ctggcactat acttacacag
                                                                      240
aagttggcaa cttctcattg ccttgcacaa atgtggataa tagtaataac aaactaatgt
                                                                      300
tgaatgatta gaattttaat cagttcttta aaagtagcca ttattttggc atgttaggta
                                                                      360
gggagagatt caaattattt atgttatctt cccaacttga gaatggcatt attagatcaa
                                                                      420
gccattagac ttatagattg cggaagattt agatgtactt cttaattatg aaaattacat
                                                                      480
ttaccttact caaataaccc catatatacc taaaagtttt aataaactaa agcatgacca
                                                                      540
catgactcaa tcagctgtcc gtaataacct gtggtatagg taggacttag ttgggcaaag
                                                                      600
ggtgagacgt ggccatcttc acgggctcat aagagataac caaggtccct tcaggtcggc
                                                                       660
cagecteate atgeeteage tetttetaat eetgettatt agtaaggtgg atgtttatte
                                                                      720
atttatttat ttggttagtt aaataacagg ccgcaattta ctgtgttact taaattttac
                                                                      780
ttaagtaaaa tttaagaaga agaagaagat gatgactgta aaaacaaagg tgtgaatata
                                                                       840
tttagctata catgagatag gatatcaaat acataaatag ttcaatttgc agttgcacag
                                                                       900
tgccatttca cccaggttaa acaataggaa gactcgatgc atacgtgtca tctgtaaatg
                                                                      960
ctctcatgtg aaagaaattg tgaagtaaaa taaagtatct tgagtagaaa tttttctaca
                                                                      1020
                                                                      1033
ttttctcaaa ata
```

```
<210> 12748
<211> 1110
<212> DNA
<213> Homo sapiens
<400> 12748
                                                                       60
caqqtaactt tcgaccgact ttccccaaga gaaaattcct agaaattgaa caaaaatgtt
tccactggct tttgcctgta agaaaaaaaa tgtacccgag cacatagagc tttttaatag
                                                                      120
cactaaccaa tgccttttta gatgtatttt tgatgtatat atctattatt caaaaaatca
                                                                      180
                                                                      240
tgtttatttt gagtcctagg acttaaaatt agtcttttgt aatatcaagc aggaccctaa
gatgaagctg agcttttgat gccaggtgca atctactgga aatgtagcac ttacgtaaaa
                                                                      300
catttgtttc ccccacagtt ttaataagaa cagatcagga attctaaata aatttcccag
                                                                      360
                                                                      420
ttaaagatta ttgtgacttc actgtatata aacatatttt tatactttat tgaaagggga
cacctgtaca ttcttccatc atcactgtaa agacaaataa atgattatat tcacagactg
                                                                      480
attggaattc tttctgttga aaagcacaca caataaagaa cccctcgtta gccttcctct
                                                                      540
gatttacatt caactctgat ccctgggcct taggtttgac atggaggtgg aggaagatag
                                                                      600
cgcatatatt tgcagtatga actattgcct ctggacgttg tgagaattgt gctttcacca
                                                                      660
                                                                      720
gaatttctaa gaatttctgc taaatatcac ctagcatgtg taattttttt tccttgcctg
tgacttggac ttttgatagt tctataagaa taaggctttt tcttcccttg ggcatgagtc
                                                                      780
agatacacaa ggacccttca ggtgttacta gaaggcgtcc atgtttattg ttttttaaag
                                                                      840
                                                                      900
aatgtttggc actctctaac gtccactagc ttactgagtt atcaggtgca ggtcagactc
                                                                      960
ttggctacag tgagaggcag cttctagaca gagttgctta atgaaagggt ttgtaatact
                                                                     1020
ttacaaacca ttacctgtac ctggcctggc ctccaaaata ttaacattct ttttctgttg
                                                                     1080
aaactcgcga gtgtaacttt cataccactt gaatttattg atatttaatt atgaaaacta
                                                                     1110
gcattacatt attaaacgat ttctaaaatc
<210> 12749
<211> 102
<212> DNA
<213> Homo sapiens
<400> 12749
aggctggagt acaggggtgc aatctcagct cactgcaacc tctgcctccc gggttcaagc
                                                                       60
                                                                      102
gattctcctg cctcagtctc ccaagtagct ggaattacag gt
<210> 12750
<211> 1110
<212> DNA
<213> Homo sapiens
<400> 12750
caggtaactt tcgaccgact ttccccaaga gaaaattcct agaaattgaa caaaaatgtt
                                                                       60
tccactggct tttgcctgta agaaaaaaaa tgtacccgag cacatagagc tttttaatag
                                                                      120
cactaaccaa tgccttttta gatgtatttt tgatgtatat atctattatt caaaaaatca
                                                                      180
tgtttatttt gagtcctagg acttaaaatt agtcttttgt aatatcaagc aggaccctaa
                                                                      240
gatgaagctg agcttttgat gccaggtgca atctactgga aatgtagcac ttacgtaaaa
                                                                      300
                                                                      360
catttgtttc ccccacagtt ttaataagaa cagatcagga attctaaata aatttcccag
ttaaagatta ttgtgacttc actgtatata aacatatttt tatactttat tgaaagggga
                                                                      420
                                                                      480
cacctgtaca ttcttccatc atcactgtaa agacaaataa atgattatat tcacagactg
                                                                      540
attggaattc tttctgttga aaagcacaca caataaagaa cccctcgtta gccttcctct
                                                                      600
gatttacatt caactctgat ccctgggcct taggtttgac atggaggtgg aggaagatag
cgcatatatt tgcagtatga actattgcct ctggacgttg tgagaattgt gctttcacca
                                                                      660
gaatttctaa gaatttctgc taaatatcac ctagcatgtg taatttttt tccttgcctg
                                                                      720
tgacttggac ttttgatagt tctataagaa taaggctttt tcttcccttg ggcatgagtc
                                                                      780
agatacacaa ggacccttca ggtgttacta gaaggcgtcc atgtttattg ttttttaaag
                                                                      840
aatgtttggc actctctaac gtccactagc ttactgagtt atcaggtgca ggtcagactc
                                                                      900
ttggctacag tgagaggcag cttctaggca gagttgctta atgaaagggt ttgtaatact
                                                                      960
                                                                     1020
ttacaaacca ttacctgtac ctggcctggc ctccaaaata ttaacattct ttttctgttg
```

1080 aaactcgcga gtgtaacttt cataccactt gaatttattg atatttaatt atgaaaacta 1110 gcattacatt attaaacgat ttctaaaatc <210> 12751 <211> 17367 <212> DNA <213> Homo sapiens <400> 12751 60 accatggtct agcggtagca tcagtgtcaa ggaaaaacac ccgctactta gcagacctgc aaagggagtc tccctttccc tgggggagtt tggagaagac tctactcctc cacctcttgt 120 ggagggcctg acatcagtca gacctgcccg cagttatccg ggggactgtc tccctgtgat 180 240 gctgtgcttc agtggtcacg ctcctagtcc accttcatgt tccgtcctgt acgcctggct 300 ctgcctttta gatagcagta gtaaattagt gaaagtacta aaagtctctg atatgcagaa gtaatggcat aagctgtctc tctctctccc tctctgtctg cctcggctgc caggcaggta 360 420 agggccccct gtccagtgga cacataaccc acgtgacctt acctatcatt ggagatgact 480 cacactettt accetgeece tittgetitg tatecagtaa ataacagtge agecagacat 540 ttggggccac taccggtccc cgcgttttgg tggtagtggt cccccgggcc cagctgtctt 600 ttcttttatg tctttgtctt gtgtctttat ttctgcagtc tcgtctccac acacagggag 660 aaaaacccac cgaccctgtg gggctggtcc ctacaaagat aagggtgata gtatctcccc tcaagtgttg ccagaaggac caactaatgc cccacaccga gcaggcactt gatggatgat 720 780 ggcatttact tagaaggaag gagacgattc tcattttttc caccagataa aaactaagat 840 acatgggttt aaaaaatggg ccttttggga attaagggcc cagaatgaaa catgagcctc 900 ctggcctttc ctggatcacc gtcaggcttt tattgagaga ggagcagctc cccactggct 960 gcttggcttg tcattgcttc actctgtctc ctttggcctt gccacagatc tacgcagacc ccaccaagag gctggagctg tacttccggc ccaaggaccc atactgccac ccagtgtgcg 1020 1080 ccaaccgctt cagtaccagc agcctgctgc tccgcatcag gaagagaacg aggcggcaga 1140 aaggggtgct gggcactgag gcccactccg aggtcacatt tgacatggag atccttggca 1200 tcatctccac catttacaaa tttcagggta actgaaatct gctcttgcaa tgtctggtta 1260 tttcagggct ggccatccta gctgcctgca ggagctgtgt gggtcatctg caccagtgga gggggccagg atatgcccag gggctgtggg gacacagcag ggcacaggcc ccatccagga 1320 ggcagccttt cttccctcca gccaacagtt ccccagagac tgcaggttca ttgctgccca 1380 atcttcagca ttcttaagct agaaatctcc taatttttaa tgaaaccatt gtgtgggacc 1440 1500 aaataaaact ggtcagtaga cctccagtct ttcccccacc acagtgtttt gaaccttctc ttgtctcggc tgctgttggt cttgccctcc tagctcccga agccccttgg gacctcctcc 1560 tcctctgaac tctcagcagg ttgaacgtcc ctcgtggagc cctcaatcag gtttcccacc 1620 1680 taccaggaac cccagtgagg aagcaataaa gcaagggagg gagacgggtg agaaagacag actctggcat tgtgcctgcc tgagccctgc cagtttcttt gggaggtggc ttggcttccc 1740 1800 tgagcctcag tgtccttgtc tgtgcagtgc gggctacaga gcctgcgttc cttaggccct cgtgaagatt ccgggaggca atgcttgtga atgggccagc ctctggccca caggaggtgc 1860 ctggcatatt actaacaagg cttagagatg gctaagttac atctgcagtt ctaggcagaa 1920 1980 aaagtgaaat gaaggagaag caggacctgg ggtcccatgg gttgggcatt tttaatggca 2040 gtcattctgg tgggtcatgg cattcaccaa agagggctgt tcttttggga caaggtttcc 2100 caagtgattc ataaaacata acacctcata tttttcatcg aattgaacca gcatcttgct 2160 gctctgtgtg tgtctctgga ctggcagcat cagcctcacc tgggagcttg gtagaaatgc 2220 2280 accaggtcag aacctgcatt tagcaagatc ccagcagatt catatgcatg ttactaggtt ggtgcaaagg taattgcagg ttttacagtt aaaagtaaca ttcatctaag aagcactgac 2340 ctggactcca tcctcaccta tcatgtagct ccccacctcc ccaaaataat tttcatgtaa 2400 gtgacttaga ctgcatggag ccaactttgc agaggcattt gggaagggtg tgttttcctg 2460 ccaccctcac cctgcagcct ccaccacatg gcccactcag cacctcccta agcagatgtg 2520 ggtgtcggtg tgtggcagct gcccattcct ggactcaatg tctgccatct gcccacctct 2580 2640 ctttctaggg atgtctgact tccagtactt ggctgtgcat acggaagcag gcggcaagca tacgtcaatg tatgacaagg tgctcatgct ccggcccgag aaggaggcct ttttccacca 2700 ggagctgccg ctctacatcc ccccacccat cttctcccgg ctggacgccc cggtggacta 2760 2820 cttctaccga ccagagaccc agcaccggta aggcccccct ccatgcagcc tcggttctct atcctgaaaa tgggatggtc cgggcacgga ggctcacaca ctgggcgtgg tggtgcacac 2880 2940 ctgtaattcc agctactcgg gaggctgagg ctggagaatc acttgaaccc aggaggtgga ggttgcagtg agccaagatc gcgtcactgc actccagccc gggtgacaga gtgagacttt 3000

gtctcccaaa aaaaaaaaa aaaaaaaaaa agaaaatggg atgacagtag tactacccaa

3060

cagacgtatt	gggattgaat	ttaaaaagtg	tgtgcagttc	tcagcacagg	gctgagtaca	3120
gaacagggcc	ttagtaagcg	gtggcctgtg	tgatcgccag	gttggcctca	gtcctgagga	3180
cagtgcaaag	aacgtgactg	tgggacatgt	gggttcctgc	tgagaaatgt	cctttggctt	3240
aatcccctgg	tcattgctga	ccagccagtc	tctggacctt	gctgtcacta	gtaatgacac	3300
tacctaagca	agcctcgtgg	gaatgtccca	ctctctgacc	ccagctcttt	cctacttcct	3360
ttgctcccca	tggcctcacc	gtccctgtcc	gtggcggaga	ttttgcagcc	tctttatcat	3420
ctgtccctgc	cctgccctcc	tctctttgcc	acactcacct	gccaagcctt	ggtcctactt	3480
caccccagct	gtttaccctt	tcctggtctg	ccctgtgcgg	ctggaggtcg	cttcagagaa	3540
cccctgaccc	tgcccatcgc	ccagtgccat	ccttctcaag	gcatctgtga	ctctacacag	3600
ctctcgcctg	ctctgtactt	ggttatggac	tgcgtcccct	ccagaacacg	gtgcctctcc	3660
tgaggacagg	cgctcactct	ctctcatcag	tagtgggttt	ctcctacacc	gagagctatg	3720
aaaagccaca	tggacgtgac	tcatagtgca	cccaccgcca	cccctgcca	cccacacaca	3780
ggctccgtgc	acagcctgcc	caagcccaca	tgcaattcag	atgaaatgaa	ttctgtaact	3840
cagaggttct	tgacataatt	agagacctca	gcggctgttg	gaaaggcagg	cctgggcatt	3900
gtcaaatgta	gtcaaattgt	caaatgccat	acattgacat	aaaagaatag	gatttccttt	3960
atataaaatc	caagattgaa	tactgtgaaa	acaaaatgaa	gaaaacaagt	ttgacagtat	4020
ccaactgggg	atgaataaca	ttgaccagcc	acactgccag	ttatttcacg	tccctgtgca	4080
gcagcgctgt	gagtgcatct	cacccaagcc	tgggagcaat	tccccagggt	tcctgacacc	4140
cccatcgtac	acatgaggaa	gccgagacat	ggggtcagcg	ccacgtcccg	ccggcagcac	4200
cgccctggtc	tctcccactc	tgcaggcttt	gctcgtggcc	cagtgccaac	ggtgtcctga	4260
tttttgtatg	ctctactttc	taaaatgacg	cacaaaaaga	caacatggaa	aaaaactttg	4320
cattgtaatg	gatgctcccc	agaagtagcg	acttggcctg	cttcggtctc	tgtcatagcc	4380
ccggtgccca	gaacagagcc	tggcctgtga	gaggtactca	gcaagtgtcc	atgggccca	4440
cacagattta	ggggagcaag	attactgcca	acagatgagc	aaaatgaaag	ggccttttt	4500
tctttttctt	tttgaaaggc	ggagtcttgc	tctgtccacc	caggctggag	tgcagtggcg	4560
cgatcttggc	tcactgcaac	ctctgcttcc	tgggttaaaa	caattctcct	acctcagcct	4620
cctgagtagt	tgggactgca	ggcgcccacc	agtacgccca	gcttattttt	gtattttag	4680
cagaaatgag	gtttcaccat	attggccagg	ctggtctcga	actcctggcc	tccagtgatc	4740 4800
cgcccacctc	agcctcccaa	ggtgctggga	ttacaggtgt	gagccacagt	gtecageeeg	4860
aaaaggactt	tgaaaactgg	gccagaggtg	atggtgtttg	ttgaalaall	greceatage	4920
atgttttaag	cttccaaaaa	tgcagccctc	aagagaatgg	gettgggeet	tagagagaga	4980
ctcacacctg	taattccagt	gatttgagag	gctaaagtag	gaggarcact	cyayyccaaa	5040
agtttgagac	cagcctgggc	aatatagcaa	gaetetgtet	teatagagag	aattaaaaaa	5100
gttagctggg	catggtggcg	tgcacctgta	tagecetage	atgatgagag	cactocacto	5160
aaagattggt	tgaacccagg	actingaygo	cgcagtyaat	acgattatat	aaacacaaaa	5220
cagcctgggt	gacagaacaa tctgtggact	aacccigici	ataccaacaa	accadadac	ctctataaaa	5280
aagageggae	caagaccaga	ttatataaa	tagaaataaa	taataatata	ataacagaag	5340
aaggcaggrg	tctggaagat	ttaaaaataa	cagaaacaa	ctttaaaaa	at.aaaaaaaac	5400
tttataatta	ctcattatgt	atttatta	tatactaact	gagcacctgt	gataacccaa	5460
gggagtgggt	ggagcctggt	atccacagac	agcacagcag	ctagaataca	atacaaaaac	5520
ggcactccct	acggagcatg	antacatonc	tagaaaactt	aaaggagatc	atggggagtg	5580
ggggagetag	gtggaaggca	ataaaccaaa	gctacaggta	gcagcgaggg	ccctcagagg	5640
anctmacato	tggagctgag	acagagccag	ccaggtgaag	atccagggag	aactttccag	5700
accaggggat	tggcgcatgc	aaaggaaggc	tagagagact	gctgtgcccc	agagcaggtg	5760
adccadadaa	tgggggtggg	gagtgaagac	cagtgcctag	gcttcatcct	caagagagag	5820
tatattatta	tctgcctccg	gaaaagcatt	gcagaaaggt	ggagagaatt	ggattgtcta	5880
gtagccccca	cgtgcccatc	aggagcgtcc	agtgagcaac	attctgctcc	tctccacccc	5940
cagtggcaca	gtgctgcctt	cagaaacaag	cagtgcggat	ctctgacagg	gaagactcat	6000
gtttcagaca	gactcgcaat	accagtctcc	tacgcaacag	· aattaatagc	actccccaac	6060
atcacccaca	accagtcctt	gttcactttt	tcccgattgt	ctcaaaagcc	actcaggagc	6120
caaacaaggg	ccacacatgt	tgcttttggt	tgctgtcccc	tagtctgtaa	catcctctac	6180
caccaccacc	ccctactttt	ttctgattgt	aagaataaat	. tgtacctgtt	agaaaaaaac	6240
aaaacattqt	ggaaatgtat	taactaaaaa	. gaatcaagtc	actttgcctc	cctgcagaaa	6300
actqttqcac	: atagaatgat	accattttct	gtaagtgtat	: tgtactcact	ataagagttt	6360
gaagcagggg	g gtgacatgat	ccttcctttt	ttttttttg	gagacggaat	ttccctcttg	6420
tcacccaggo	: tggaatgcag	tggcgcgatc	teggeteact	gcaacctctg	cctcccaggt	6480
tcaagtgatt	ctcctgcctc	agcctcccga	gtagctggga	ttacaggtgc	gcgccatcac	6540
gcccagctaa	a cttttgtatt	tttagtaaag	acggggtttc	: accatgttga	ccaagatggt	6600 6660
ctcaaactco	tgacctcaga	. tgatccgcct	gcctcagcct	cccaaagtgc	tgggattaca	6720
ggcgtaagco	e accgcaccca	gcctattttt	taaagttact	. cactggccag	gealagigge	0/20

tcatgcctgt	aattccagca	ctttgagagg	ctgaggtggg	aggatcgctt	gagcccagaa	6780
gtttgagaac	agcctgagcg	acatagtgag	accctgtgtc	tacaaaaatt	ttttttaaat	6840
cacccaagtg	tggtggcacg	tgtgcctgtg	gtctcagcta	cttgggaagt	tgagatggga	6900
ggatggcctg	agcctgggag	gtcaaagctg	cagtgagctg	tcattgtgcc	actgcactcc	6960
agcctgggtg	acagagtggg	accgtgtttt	aaaaaaaaa	agtggttttt	tggtttgttt	7020
tttcttcacc	acaagcagca	tactcttgtc	agaaacaaaa	atacataaaa	gaaaacagac	7080
tgggcacggt	ggctcacacc	tataatccca	gcactttggg	aggccgaggc	gggtggatca	7140
cctgaggtca	gatcaagacc	atcctggcta	acacagtgaa	accctgtctc	tactaaaaat	7200
acaaaaaaat	tagccaggtg	tggtggtggg	cgcctgtagt	cccagctatt	tgggaggctg	7260
aggcaggaga	atggcgtgaa	cccgcgaggc	ggagcttgca	gtgagccgag	atcgcgccac	7320
cgcactccag	cctgggcgac	cgagcgacac	cccatctcaa	aaaataataa	tatacaaaaa	7380
attagccggg	cgtggtggcg	catgcttgta	atcccagcta	cttggggggc	tgaggcagga	7440
gaatcgcttg	aacccaggat	gtggaggttg	aggtgagctg	agatcgtgcc	attgcactcc	7500
agcctgggca	acaagagtga	aactccatct	caaaaaaaag	aaaacagcac	ttgtcagcac	7560
tgccgcccct	ggcactagat	ggcagcagca	tctgagttac	tgctctgccc	tgtgggccag	7620
tgggaagctg	tttccagccc	ctggggtaaa	atgagggagg	agggccagct	gccctcgggc	7680
cccaaggccc	ccctccctcc	ccatgtggtt	tatcagtttc	cagcacctgg	aaagaacctg	7740
cattttctcc	cagggctgct	gtcgattctc	ctgccctgct	cacgttgctg	ggtgcatgag	7800
gactggcagg	gaggagacct	agccactgcc	tccttggccc	cttcctgggg	agattgagct	7860
tcccacaaac	caggtgggca	agcagaggct	gctgggtggc	ctgacggggt	cgtcctaact	7920
ggaggatggt	gggtccctcc	tgttcctcag	ggactctcca	aggtggtcct	gttgactttg	7980
ccatcagcac	ccttcgaccc	ctgccagcag	ttccccacct	acttagaatc	atggtgacac	8040
agaccacagc	ctgaggccac	catggggagc	ggtctgggga	tgcagccaag	gctgccgcag	8100
cctctcccta	cagggttggg	cacaggtggg	ctgctcttgc	aggtgaccac	ccggttttcc	8160
tggggaacat	ctttgaaaac	gcgatagtgc	tgacctgtcc	cgtgcggttt	ctaacgcagg	8220
cactttaaaa	agaaggccca	ggctcgatcc	cgtctttcta	gttttgtttc	acaatgtgaa	8280
aattactgct	attctttgta	agtgtgcaga	tgctatgtac	tcatgtagaa	aactaaggta	8340
aaatggaaac	acattttaaa	aggtaatgat	cacccgagtg	aatttgatga	tgtccgagac	8400
ctactttaag	atgcacttcg	atgaaatgca	gttaaccatg	tgctgatcat	tgctgaagct	8460
ggtgacgggc	ttgtgggggt	tctttacact	ggcctgcctg	cttttgtgtc	agtttggtgt	8520
ccaaccttaa	agacgtaact	actacaaata	ttttgagaaa	tacctaccta	agggtgttct	8580
gtgccaacat	acagaggtag	ttctagaatc	tctgctttgt	atgtgtgtgt	atgtgtttta	8640
agactttatt	tttttagagc	aattttagaa	tcacagcaaa	ataaggcgca	gcgatttete	8700 8760
ctatgccccc	cagccacccc	cactcagcct	ccccgtgat	cagcatctca	gragagragg	8820
gcgcttgtta	ccagtggatg	aacctatgct	gagacgtcgt	cacccagtgt	ccgtagttga	8880
cattggggtt	ccctcttggt	gttggacatt	ctatgtgttt	ggacaaatgg	ttastataa	8940
tttaacccct	gtgtttcatg	acaatgccat	ttggtgaggt	terretagasa	grange	9000
tgtggtcgag	atgcttgtga	gccaaagagt	targetetgt	aggtggcag	gacaggigig	9060
tgatgggacc	tttgcagcca	geettetega	tgggagteee	tttattagaa	caygayctcc	9120
gtctctgggc	aaatttccca	gteeetgtgg	etteagetge	atataagaa	atataaataa	9180
tctctgtagg	attagtttga	gcgttaaata	agigaatege	ctcatccac	tatactaaat	9240
gtgcagetet	tgtccctgtt	ctgacaacgg	gactetatee	agtttttgag	taactaaaca	9300
gattteacca	ttgccagctg tgactcagtg	gagtttaga	gactetgtet	ccatgacaga	taccetttce	9360
gractarace	cctctaggac	cttttaact	ttccccagtt	tgagaggtgg	aggccccagg	9420
rtttgtgtg	gttgtcatag	acaattataa	ctacatatat	tectetataa	atacaggttc	9480
gttteccega	caactctggg	atactttaca	agcacagatg	t.ccagagaga	ggcacacggt	9540
gagtataga	cttggggggt	tctagactcc	ctacctaatc	tagcccagcg	aatacctaaa	9600
atagasttaa	tgctcctgtt	ctcacctgta	ctctctgccc	ccadadaaada	ctacaacaat	9660
cccccatct	caggtgagaa	tctgattggc	ctgaggagag	cccaacaccc	ccacaatqcc	9720
atctttatca	actttgagga	taaaaaaata	cccaagcagc	cactggaggc	tgcagcccag	9780
accttrageda	gagtctgcac	taaccccata	gaccggaagg	tggaggagga	gctgaggaag	9840
acgeggagga	cgctgcgcct	aaccccaata	actccaacct	ctctattagc	ttcccgtgtt	9900
tacccaccto	ctccctgttc	ctaactataa	gattaactac	actgaccttt	acccattcct	9960
tactccagecg	gaacttctca	ccttcagatg	ccatgtctaa	aggetgtgte	ggtataagtt	10020
ctacattccc	aaggttgaaa	atgcttctta	gagttcttaa	gaaaaatatg	cgtgcgttgt	10080
tcagatgtga	cataaacgtg	gagetetggg	atccactgag	ctcttattct	tccattcact	10140
cattocaoco	aagccagtgg	ggcacctagt	gtgccaggcc	cagcactttc	ttaccgttag	10200
aactggaacg	gtactaccaa	gcagccctcc	ttccccgggc	ttgcgggtgc	cgtggagtcc	10260
tgcgtcccca	ctggcatgag	catcaggttc	acaggccact	gccacctgga	gcccggcgct	10320
tcccttacac	agtgtgcctq	tgggagacca	cgtggatgtc	ttgttgattt	ccagcagtca	10380
3 -						

ctggggcaca	ctgtcagtgg	ctccttattg	cccaccaggc	acagcccaca	ttcctgacct	10440
gaattggctc	gtgaggcccg	ctgccccagc	cccctggccc	tctacactcc	ggccacactg	10500
acctttgcag	tcctccccgg	gccaggctgt	ccccttcagc	cctgacgatg	tcccacctca	10560
ggcacctgtt	ctgtagattg	gggcagcatg	gggaccctgg	gactctagca	tgtgccccct	10620
gagccgtact	ccccaccgcg	ctgtgggctc	tatgaggaca	gcgaccatgt	ctcttatcgt	10680
ttgagagacc	cagccccaca	actgcacttg	gcacaggctg	ggcatgcagc	ccaggcttct	10740
gagggaaggg	atgaattagt	gagagcagga	ggtcctaggg	ccacgccctg	tgtgtccagc	10800
ccctqtcctc	taccagctcc	tctctggagg	ggccgctggg	gcccagaaca	tgttgggagt	10860
tcagggccga	agggtggaag	ctgctggtgc	tcatctcagc	ctctgccctt	ggcctcccca	10920
gctgtttgac	atccgtccca	tctqqtcccq	aaatgctgtc	aaggccaaca	tcagcgtcca	10980
cccagacaag	ctcaaggtct	tgcttccctt	catagcctat	tacatggtaa	gtgtcagctg	11040
cccacccacc	tgccttggtt	tccacccatg	tggtccctgg	tccctgctgt	gatgtcttag	11100
agccacagta	agagcagcca	accccctatc	ctggctcccc	atccttcctg	cccacccc	11160
atcctggccc	atccttccta	cccacccctg	gcctggccct	catccttcct	gccctgcccc	11220
caacctagca	cctcccccgt	cctggcaccc	ccatccttcc	ttcccccctg	tcctggcccc	11280
ccgatcctag	catccctaag	acagcttatt	aaagccagct	agaaaagttt	cagctccctg	11340
agtccagggc	gccctccaca	acctattaga	ctgcagaacc	cagcccctga	ccacagcggc	11400
cccatatcat	cctctacctg	tattaaataa	ggttcagtgg	gaggcagatc	cacctttgat	11460
ccacaagcat	gtaaagacac	atgtcattac	tgaggttcca	aaggtgctgg	ttggaaaggg	11520
atcctccccq	ctgccaggcc	tcacagagca	ttaggggagg	ccagcgtaag	acatgactgt	11580
gagggtctgc	aacaggcagt	aggacacaag	aaagactcat	ttcttctgcc	ttgttggact	11640
tccaactcaa	gagagcgacc	tatactactt	ggcgttggca	ttttatttta	tttatttat	11700
tttatttatt	ttgagatgga	gtctcactct	gtctcccagg	ctggagtgca	gtggtgtgat	11760
ctctgctcac	tgcaacctcc	acctctagaa	ttcaaqtqat	tctcctgcct	cagcctccta	11820
autauctuuu	agtacaggcg	cacoccacca	tacccaacta	attttctttt	tttgcatttt	11880
tagtagagat	ggggtttcgc	catattaatc	aggctggtct	cgaactccta	acctcaagtg	11940
atctacctat	ctcggtctcc	caaaatgctg	ggattatagg	cgagagccac	tacaactaac	12000
tagcattagc	tttttagaca	taagccattc	aaaagctccg	tttagggaca	gaagatgtct	12060
catcoattag	gccagtagta	acattgggca	cttaatatgt	gccaggaacc	atggtaaagg	12120
ctccacaaa	gctatctcat	ttaatcctct	gaaaaaccat	gggaggcag	gcatgatggc	12180
tcactcctac	aatcccggta	cttcaaaaaa	ctgaagcggg	agaatcgctt	gcatccagga	12240
atttaagacg	agcctaggca	acataatgag	accccatctc	tacaaaaaaa	ttaaaaatta	12300
actagatata	gtggctcgtg	cctgtagttc	cagctacttg	ggaggctgag	gtaggaggat	12360
cacttgage	caggaggttg	aggctgcagt	gaaccgtgat	tttgccactg	cactcagcct	12420
adacaacada	gtgagaccct	ctcccccaaa	aaacaaaaac	ccacaggaaa	gggtgctcct	12480
tttcctca	tctgacagga	agaccaaggt	ttggaaaggc	cacqtqccct	caccaaggtg	12540
acaddacctd	catgtggcag	agcagggctg	ggcatccaga	accetatece	cagctcctga	12600
actettetae	tgcctcactg	taggetetgg	cccqtccaqq	gacctgggcc	ttcacctcac	12660
ctcacatttt	cccactttt	ctatcccaga	taacaggccc	ctggcgcagc	ctatggattc	12720
gatttgggta	tgacccccga	aaaaacccag	atgccaagat	ttatcaagtc	ctcgatttcc	12780
gaetegggta	tggaatgaaa	cacqqtaaaa	attcctgaaa	gctttgcttc	ctgcctttct	12840
ctctctttat	ctttcagttt	ctagcattct	cttttgtagt	aagaatcttt	tcatttggaa	12900
agaataaaaa	aaccttttgc	cccattact	gagactcttt	tgaatgcaga	atggcgtgga	12960
aacgaaagtc	ctagttctgt	gctggcccca	ccactgaccg	cccgtttctg	aaccacagtc	13020
cctcattaag	tgactccacg	taccctataa	tcctgtgatg	caggccaggc	acttgtgaga	13080
gcatcagtgc	ccgccctgcc	taggaagtac	tgagatgtgt	tggtgaccgc	agtggcgtgc	13140
ttaacaatct	ggggttgccc	tctcaggagc	tggccccatg	gacccaactc	ccatctccag	13200
tataaaacca	gtgttgtgtg	ccaacaaacc	ctgtgcccgc	ccacctgact	tgcccgccct	13260
cacctacaga	ttacgccccc	agtgacttgc	cggtcaaagc	aaagcgcagc	acctacaact	13320
acagcctccc	catcaccgtc	aagaagacat	gtaagcgtgc	caggcgcctt	ttgtgggtca	13380
tgagtgattt	gccaaggaag	acadadcacc	tggacccaga	cggggaggtg	gttcctgggg	13440
gtcactccag	ggctctgccg	gtcattcctc	ccctaggagg	gggtgggctg	gcaggagggc	13500
agggcatggt	ggttgggaga	gacacctcct	ccccaccctg	cacattccaa	gcactgctgt	13560
tataccaca	cagccagcca	acttatcacc	atgcatgacc	tgaagcaggg	cctgggcccg	13620
traggaaraa	gtggtgctcg	gaaaccagct	tccagcaaqt	acaagctcaa	ggtgggcgcc	13680
cctadaaacc	aggaatggag	gggaggactt	ccctcttaaa	gccggqcacc	ttgtgggtga	13740
cacctaaaaa	gctgtgatta	gggcagctct	gcccaccggg	gcctcggcac	cttgcttcct	13800
tttaggtcag	ccttcagaca	ctgagggtga	gaactcgggt	gcaaagcccc	agggctgtgt	13860
atattaaaaa	catctggcga	agaggtggta	acaagtctca	gggaagtctg	gcaccagcag	13920
ctacatataa	ttatacttat	cgagcccttt	gggagcctgg	gccccactg	agccacgtga	13980
ccactccaaa	aatgatcgga	attgggcaca	cacaggagga	cagagccaga	gcaggccatg	14040
		555	35 55	-		

tgggctgcag	ctgtggcagg	agcctcactg	gctcacgttt	ccgtcagtgc	ggttgcccag	14100
cgggggttgg	cggtttccag	agctgttccc	acattcaggc	tcccgcaagc	cgctccacag	14160
ccctggggga	ggccgagaag	ggggcatccc	gcacggtgga	atcacctgcc	gagggagtgg	14220
gtggcagaga	tgagtgcagc	agagacgggt	gatgcgaggg	acttgctgtc	ccccagtgtc	14280
tggggccctg	cctattttct	aggtttttta	gacctttgct	gccttcccag	tgaggggcga	14340
tcatgccaca	gcctgtgcgg	ccttccttct	cgaggcctct	cctaggaggc	cgttatcctt	14400
actctagaac	tacatggctg	ggtacggaaa	ggagagagca	aacactcact	aagccctgct	14460
tttcccagaa	aagatgtcag	ggcagcccat	agggggacat	agggtgacaa	attagcagca	14520
gtgggtgagg	gataaggtca	gagtgcagga	gggcacagag	agcagagccc	ggcacaaggc	14580
tagtgccagc	cccatgccat	gggcgccatg	gcctgctgca	cgggcgggct	caccgtttcc	14640
agtggcccca	ggagggcctg	ggtgctcctc	tgcctctccc	agagcctcct	ggggagttgg	14700
acattgtttt	ttccccaact	cctccgtggc	cttccagcct	gtctgcccaa	cctgctcctg	14760
gtgaccagcc	agctccctgg	agagacccca	tgggagccta	catggagtct	gcaacactgg	14820
cagccccagg	gctctggctc	accttccctg	tctctctccc	cctttgtcac	caggactctg	14880
tctacatctt	ccgggaaggg	gccttgccac	cctatcggca	gatgttctac	cagttatgcg	14940
acttgaatgt	ggaagagtac	gtatgggagg	ggccctgaga	cactgagggg	ggcccgtggg	15000
acccagggac	caaagcggtc	tctgaactct	tccacttcac	gtcggccttc	atctccggca	15060
agagcactcg	cctgtctggg	agtttggtgc	tgccgagagc	cctggcatgc	tggtggccct	15120
cgtagaggcg	gtgccctata	gaaagccgtg	gctccaagct	gcgcagagac	agttcttact	15180
gttatgtcct	tgctcctctt	ccactgtcca	cataaaggcc	ccatgaggtg	gttctcaatc	15240
ccaggaccca	tcagatccca	gaaacctttt	atcgacttgt	tctcagtgat	gtttaaagaa	15300
ttgcagggaa	agggcactca	ctgggatgag	aggagatggg	aacacatcaa	atacatcttg	15360
aactctgctg	aaagccatgg	ttcaccagaa	gcatgtgcag	tggtaacacg	gccagcttca	15420
tgtgtgtgag	gcggtccagg	gagcacacag	gtttagggcc	ccagctggga	acacacagct	15480
tgtgtttcca	gttcctctct	gtagacttcg	ctcacggggc	tgcctttgat	ctcagtacag	15540
ctctgcctct	ggcaaaaacc	aacactggca	tctcttagca	gagacccgcc	ctgggacttt	15600
atgtcccaac	cctctcccca	ccccaggtt	gcagaagatc	attcaccgca	atgacggggc	15660
agagaattcc	tgcacagaac	gggatgggtg	gtgcctcccc	aagaccagca	acgageteag	15720
ggacaccatg	tccctcatga	tccggcagac	catccgctcc	aagaggcctg	gtaagagccg	15780
cttggggtaa	agggggtcca	ggatgcctgg	tgatctcctt	tgagacagag	gtgtccctaa	15840
ggggacccat	tcctgggaaa	tggcacccag	gtggcatcat	cttgcccctg	gccctggtgg	15900
gaggaggaca	ttgtgagcca	gagcccagcc	caggtgctgg	catcacccca	gctgcccaga	15960
ggctgcctca	gccgaggccc	tcagccctgc	ggtccggggc	aggagacaag	cccagagggg	16020
ctgggtgcag	cagcctggca	ctgccatcgg	ggcctccacc	tgacgccctc	acaccagece	16080
atgtctttca	gctgtgcatg	cgcaggctct	gcctctgtct	tcttcctgtt	ctgtgtggcc	16140
cagccccttc	ctggaaccag	gcagccctgg	caggagtgag	ggccagctgc	agggaaagtg	16200 16260
aagggggcaa	cacctgccag	gctgtgggtc	tcacgaggct	cgggggagtt	ataagaggcc	16320
ccctctctca	gggaactcct	cccaggettg	gggaggaggc	accetggace	tagecacgee	16380
ccacagatct	gaccgaagca	ggggttcttg	gtettgettg	gaacccagat	teagececet	16440
ttgggaatct	aatcaagggt	gtggaccctt	teecagagaa	aatggtgtgt	tcactcctga	16500
gggtccatgg	gcccttgaag	ctgctcatgg	cteceetget	geaggattee	ggttgtt	16560
cgtcaaacta	cagetteect	ggggggcccc	caccccatac	nangataat	gcttcttaag	16620
agctcgagct	cggaccctta	tagtagtaaa	caggeteeee	agageeegge	ggcctttctg	16680
gggccacccg	gcagcctgca	tgggacaccc	atggeettgt	taagataga	cccagctctc	16740
ttttccagct	cagccaaggc	tgatggegga	aaagagcagc	acttcaacc	gtctggggaa	16800
gacgaggagg	atgaggagga	ggaggaagag	gaggaggagg	acticaagee	atccgacggc	16860
agtgaaaacg	aaatggagac	agagattetg	gactacgtgt	accagggccc	aaggctgggc	16920
ctccctgacc	eggecagaet	ggtgtetgge	ccaacgaggg	agecgggget	ccccattgcc	16980
acccacagtg	gaggtagg	atacatatas	catectect	agagetagag	tcccagcaaa ctggtcctga	17040
gggtgcagct	gaccccagca	accetatace	ctaactataa	racccatosa	ctggtcctga ccagcccagc	17100
ggggttaggg	taaataaaa	cccastccct	ctcaccatca	gaccagtaaa	tgccggaggt	17160
acceagecag	- rgay rgygCa	cccaatycct	caddccaded	tcacttaact	ctcatgactg	17220
ggagetggge	agetgtggdg	grandetere	ccataatata	acataacaaa	aagtgccttt	17280
rggrggrgga	cccaacca++	tarcacaact	ttaaccacaa	ccagacacat	ctggaattgt	17340
			ceggeeacag	200990000		17367
ccitatiada	ccagtttccc	gagaage				

<210> 12752

<211> 6438

<212> DNA

<400> 12752 60 acatccgtcc catctggtcc cgaaatgctg tcaaggccaa catcagcgtc cacccagaca 120 agctcaaggt cttgcttccc ttcatagcct attacatggt aagtgtcagc tgcccaccca 180 cctgccttgg tttccaccca tgtggtccct ggtccctgct gtgatgtctt agagccacag taagagcagc caaccccta tcctggctcc ccatccttcc tgccccaccc ccatcctggc 240 300 cacctcccc gtcctggcac ccccatcctt ccttcccccc tgtcctggcc ccccgatcct 360 420 agcatcccta agacagctta ttaaagccag ctagaaaagt ttcagctccc tgagtccagg gcgccctcca cagcctgttg ggctgcagaa cccagcccct gaccacagcg gccccatgtc 480 gtcctctacc tgtgttgagt ggggttcagt gggaggcaga tccacctttg atccacaagc 540 600 atgtaaagac acatgtcatt actgaggttc caaaggtgct ggttggaaag ggatcctccc 660 cgctgccagg cctcacagag cattagggga ggccagcgta agacatgact gtgagggtct gcaacaggca gtaggacaca agaaagactc atttcttctg ccttgttgga cttccggctc 720 780 840 ttttgagatg gagtctcact ctgtctccca ggctggagtg cagtggtgtg atctctgctc actgcaacct ccgcctctgg gattcaagtg attctcctgc ctcagcctcc taagtagctg 900 ggagtacagg cgcacgccac catgcccagc taattttctt tttttgcatt tttagtagag 960 1020 atggggtttc gccatgttgg tcaggctggt ctcgaactcc taacctcaag tgatctgcct 1080 gtctcggtct cccaaaatgc tgggattata ggcgagagcc actgcggctg gctggcattg gctttttaga cataagccat tcaaaagctc cgtttaggga cagaagatgt ctcatcgatt 1140 1200 aggccagtag taacattggg cacttaatat gtgccaggaa ccatggtaaa ggctccacgg 1260 gcgctatctc atttaatcct ctgaaaaacc atgggaggcc aggcatgatg gctcactcct 1320 agaatcccgg tacttcggga ggctgaagcg ggagaatcgc ttgcatccag gagtttgaga 1380 cgagcctagg caacataatg agaccccatc tctacaaaaa aattaaaaat tagctgggtg tggtggctcg tgcctgtagt tccagctact tgggaggctg aggtaggagg atcacttgag 1440 1500 cccaggagtt gaggctgcag tgaaccgtga ttttgccact gcactcagcc tgggcaacag 1560 agtgagaccc tctcccccaa aaaacaaaaa cccacaggaa agggtgctcc ttttccctcc 1620 atctgacagg aagaccaagg tttggaaagg ccacgtgccc tcaccaaggt gacagggcct gcatgtggca gagcagggct gggcatccag agccctgtcc ccagctcctg agctcttctg 1680 ctgcctcact gtaggctctg gcccgtccag ggacctgggc cttcacctca cctcacattt 1740 tccccacttt tctgtcccag ataacaggcc cctggcgcag cctatggatt cgatttgggt 1800 atgacccccg aaaaaaccca gatgccaaga tttatcaagt cctcgatttc cgaatccgtt 1860 gtggaatgaa acacggtaaa aattcctgaa agctttgctt cctgcctttc tctctcttta 1920 tctttcagtt tctagcattc tcttttgtag taagaatctt ttcatttgga aagaataaaa 1980 aaaccttttg cccccgttgc tgagactctt ttgaatgcag aatggcgtgg aaacgaaagt 2040 2100 cctagttctg tgctggcccc accactgacc gcccgtttct gaaccacagt ccctcattaa gtgactccac gtgccctatg gtcctgtgat gcaggccagg cacttgtgag agcatcagtg 2160 2220 cccgccctgc ctgggaagtg ctgagatgtg ttggtgaccg cagtggcgtg cttggcagtc 2280 tggggttgcc ctctcaggag ctggccccat ggacccaact cccatctcca gtgtgaagcc 2340 agtgttgtgt gccgacgggc cctgtgcccg cccacctgac ttgcccgccc tcgcctacag gttacgcccc cagtgacttg ccggtcaaag caaagcgcag cacctacaac tacagcctcc 2400 ccatcaccgt caagaagaca tgtaagcgtg ccaggcgcct tttgtgggtc atgagtgatt 2460 tgccaaggaa ggcggggcac ctggacccag acggggaggt ggttcctggg ggtcactcca 2520 2580 gggctctgcc ggtcattcct cccctaggag ggggtgggct ggcaggaggg cagggcatgg 2640 tggttgggag agacacctcc tccccaccct gcacattcca agcactgctg ttgtccccac 2700 gcagccagcc agcttgtcac catgcatgac ctgaagcagg gcctgggccc gtcggggacg 2760 agtggtgctc ggaaaccagc ttccagcaag tacaagctca aggtgggcgc ccctggaggc caggaatgga ggggaggact tccctcttgg ggccgggcac cttgtgggtg acacctgggg 2820 ggctgtgatt agggcagctc tgcccaccgg ggcctcggca ccttgcttcc ttttaggtca 2880 gccttcagac actgagggtg agaactcggg tgcaaagccc cagggctgtg tgtgttgggg 2940 acatctggcg aagaggtggt gacaagtctc agggaagtct ggcaccagca gctgcatgtg 3000 gttgtccttc tcgagccctt tgggagcctg ggcccccact gagccacgtg accactccgg 3060 3120 gaatgatcgg aattgggcac acacaggagg acagagccag agcaggccat gtgggctgca 3180 gctgtggcag gagcctcact ggctcacgtt tccgtcagtg cggttgccca gcgggggttg gcggtttcca gagctgttcc cacattcagg ctcccgcaag ccgctccaca gccctggggg 3240 3300 aggccgagaa gggggcatcc cgcacggtgg aatcacctgc tgagggagtg ggtggcagag atgagtgcag cagagacggg tgatgcgagg gacttgctgt cccccagtgt ctggggccct 3360 gcctattttc taggtttttt agacctttgc tgccttccca gtgaggggcg atcatgccac 3420 agcctgtgcg gccttccttc tcgaggcctc tcctaggagg ccgttatcct tactctagaa 3480

```
3540
ctacatggct gggtacggaa aggagagagc aaacactcac taagccctgc ttttcccaga
aaagatgtca gggcagccca tagggggaca tagggtgaca aattagcagc agtgggtgag
                                                                    3600
                                                                    3660
ggataaggtc agagtgcagg agggcacaga gagcagagcc cggcacaagg ctagtgccag
ccccatgcca tgggcgccat ggcctgctgc acgggcgggc tcaccgtttc cagtggcccc
                                                                    3720
aggagggcct gggtgctcct ctgcctctcc cagagcctcc tggggagttg gacattgttt
                                                                    3780
tttccccaac tcctccgtgg ccttccagcc tgtctgccca acctgctcct ggtgaccagc
                                                                    3840
                                                                    3900
cagctccctg gagagacccc atgggagcct acatggagtc tgcaacactg gcagccccag
ggctctggct caccttccct gtctctctcc ccctttgtca ccaggactct gtctacatct
                                                                    3960
                                                                    4020
tccgggaagg ggccttgcca ccctatcggc agatgttcta ccagttatgc gacttgaatg
tggaagagta cgtatgggag gggccctgag acactgaggg gggcccgtgg gacccaggga
                                                                    4080
ccaaagcggt ctctgaactc ttccacttca cgtcggcctt catctccggc aagagcactc
                                                                     4140
gcctgtctgg gagtttggtg ctgccgagag ccctggcatg ctggtggccc tcgtagaggc
                                                                     4200
                                                                     4260
ggtgccctat agaaagccgt ggctccaagc tgcgcagaga cagttcttac tgttatgtcc
                                                                     4320
ttgctcctct tccactgtcc acataaaggc cccatgaggt ggttctcaat cccaggaccc
                                                                     4380
atcagatccc agaaaccttt tatcgacttg ttctcagtga tgtttaaaga attgcaggga
aagggcactc actgggatga gaggagatgg gaacacatca aatacatctt gaactctgct
                                                                     4440
                                                                     4500
gaaagccatg gttcaccaga agcatgtgca gtggtaacac ggccagcttc atgtgtgta
ggcggtccag ggagcacaca ggtttagggc cccagctggg aacacacagc ttgtgtttcc
                                                                     4560
                                                                     4620
agttcctctc tgtagacttc gctcacgggg ctgcctttga tctcagtaca gctctgcctc
                                                                     4680
tggcaaaaac caacactggc atctcttagc agagacccgc cctgggactt tatgtcccaa
                                                                     4740
ccctctcccc accccaggt tgcagaagat cattcaccgc aatgacgggg cagagaattc
ctgcacagaa cgggatgggt ggtgcctccc caagaccagc gacgagctca gggacaccat
                                                                     4800
                                                                     4860
gtccctcatg atccggcaga ccatccgctc caagaggcct ggtaagagcc gcttggggta
                                                                     4920
aagggggtcc aggatgcctg gtgatctcct ttgagacaga ggtgtcccta aggggaccca
                                                                     4980
ttcctgggaa atggcaccca ggtggcatca tcttgcccct ggccctggtg ggaggaggac
                                                                     5040
attgtgagcc agagcccagc ccaggtgctg gcatcacccc agctgcccag aggctgcctc
agccgaggcc ctcagccctg cggtccgggg caggagacaa gcccagaggg gctgggtgca
                                                                     5100
gcagcctggc actgccatcg gggcctccac ctgacgccct cacaccagcc catgtctttc
                                                                     5160
                                                                     5220
agetgtgcat gegeaggete tgeetetgte ttetteetgt tetgtgtgge eeageeeett
                                                                     5280
cctggaacca ggcagcctg gcaggagtga gggccagctg cagggaaagt gaagggggca
                                                                     5340
acacctgcca ggctgtgggt ctcacgaggc tcgggggagt tataagaggc cccctctctc
                                                                     5400
agggaactcc tcccaggctt ggggaggagg catcctggac ccagccacgc cccacagatc
tgaccgaagc aggggttctt ggtcttgctt ggaacccaga ttcagccccc tttgggaatc
                                                                     5460
                                                                     5520
taatcaaggg tgtggaccct ttcccagaga aaatggtgtg ttcactcctg agggtccatg
                                                                     5580
ggcccttgaa gctgctcatg gctcccctgc tgcaggattc ccctgggtgc ccgtcaaact
acagcttccc tggggggcct ccaccccata cttacccacc agcttcttaa gagctcgagc
                                                                     5640
                                                                     5700
tcggaccctt atagtagtaa acaggctccc cagagcctgg tggcctttct ggggccaccc
                                                                     5760
ggcagcctgc atgggacacc catggccttg tctcctccgg ccccagctct cttttccagc
tcagccaagg ctgatggcgg aaaagagcag ctgacgtacg agtctgggga agacgaggag
                                                                     5820
                                                                     5880
gatgaggagg aggaggaaga gacttcaagc catccgacgg cagtgaaaac
                                                                     5940
gaaatggaga cagagattct ggactacgtg tgacagggcc caaggctggg cctccctgac
                                                                     6000
ccggccagac tggtgtctgg cctaatgagg gagccggggc tccccattgc cacccacagt
gcccggaatg gccctaggag gccctctgag gagagctaga gtcccagcaa agggtgcagc
                                                                     6060
tgaccctagc actggctgtg acatgctgct tggtgctgcc tctggtcctg aggggttagg
                                                                     6120
gacatcccca aagggtatac cctggctctg ccacccatga accagcccag catccagcca
                                                                     6180
gtgagtgggc acccaatgcc tctcaggatg agaccagtaa atgccggagg tggagctggg
                                                                     6240
cagctgtgga gccccaggcc acaggccagt ctcgcttggc tctcatgact gtggtggtgg
                                                                     6300
                                                                     6360
agatagcgtg gggagcctcg cccatggtct cacgtggcaa gaagtgcctt tagctctgga
tcccaaccgt ttggcacagc tttggccaca gccaggcccc tctggaattg tccttattaa
                                                                     6420
                                                                     6438
accagtttcc cgagaagt
<210> 12753
<211> 153
<212> DNA
<213> Homo sapiens
<400> 12753
                                                                       60
tttgtaggaa ttactcttta ttccaatatt ataataatcc tcgctctata atcataacct
aagaaaaacc aggtcataca gagataggag ctgaggggac atggtgagaa gtgaccagaa
                                                                      120
                                                                      153
gacaagagtg cgagccttct gttatgccca gac
```

```
<210> 12754
<211> 118
<212> DNA
<213> Homo sapiens
<400> 12754
                                                                       60
aaagtatgag gctgggcacg gtggctcatg cctgtaatcc cagcactttg ggaggctgag
gcgggcagat cacttgagct caggagtttg agaccagcct ggccaacatg gtgaaacc
                                                                      118
<210> 12755
<211> 5266
<212> DNA
<213> Homo sapiens
<400> 12755
tgttaataca ctggtcccat cagtttcgca tcgtactagg tgctcggtca agatcatgat
                                                                       60
aaaccgctgg aaagggagaa gaagttaagg tagtactaca gacagaatct tatactttgg
                                                                      120
aaaaaaattc atgacaaaga aaccccaaag tattgcctgt tccaccctgt ctttgtggtg
                                                                      180
                                                                      240
tgtgtgccta gcttccatta ttcatgaagt caacctagaa gggcagactg gtaataacat
                                                                      300
gagttggtac attcttcctg gcaatacata aagaccttta atgtcttaaa ttacttatcc
                                                                      360
tagtaatatt acttcctgga atctattcta acgaagtaat cagaaatttt aacaggaatc
                                                                      420
tatgcattaa aatgttcatg gaaggaaaat gatcagcaat gaggaataat taaacgagac
                                                                      480
atatataaaa aaagcaaccc acaatttttt ttcaagcatg gagaaatgct catgcgagaa
                                                                      540
tactaagtaa acagcagaga aactcagaca tacatggttg cctctgagta gtgaactttt
                                                                      600
atttccttcc taaatttttg tatttttaat ctcttctata aatgaatgtg tattcctttt
                                                                      660
acaatgaaaa ataacatttt taaaaactaa aactaaagaa atgtattgtt tccttttatg
                                                                      720
tataaatgtc ccaagccaag atacctgaaa tataacgagg aaaagattct tttgttcact
ctgagcagat tccacttttt cctgaagtcg ttctatttgt tcctcaagaa ccccgtcttt
                                                                      780
cctgtcactg cttctgtcgt catcatcact tcgctataga aggcaaatga tcaaaaggaa
                                                                      840
aataccattt agattccagt gtgttaaatc tcctccaggg gaagcatttt actgtgtctg
                                                                      900
                                                                      960
gccaaatgtt aagacttata ttctatagtg aaagtacccc cccaccccgc cacccacaca
tatatacctc aaagtcctgt tgtggttcag agacactgtc ttctcattca gaaattccat
                                                                     1020
                                                                     1080
gggttcttat ctaggccagg gaaatttagt ggcacttgtc ttggtaacaa catgggggga
cttggctaca atttatcact atttgaccat ttgagcagta acaacaggga gacagcttgc
                                                                     1140
taatcattca tctgctaatg ggccatacag aaaaactggg caagtcctat gggccaaggc
                                                                     1200
tgctcattct tgttataatt tagaaatggc tccagccgac atataataat tcaaagtggg
                                                                     1260
                                                                     1320
ctgtttaaga ctttctgctg gcaatgatgg gctcaatata ctcctgtaaa gctttaataa
                                                                     1380
tccctgcccc cagctcactc tgaagagttt atagaattta attttttctt tttaaaggaa
                                                                     1440
aagaaaaaca aggcatggtt tatttccatt ttacagagaa aaaaggctga gaggttagat
                                                                     1500
gactttccca gcatcaccca gtcagaaagt ggcagagcca gaacgtggct ctaaggtgtt
acataccaag gtactttcag caagaaggtg gcatcactga atctagaaag cctggtaatt
                                                                     1560
cttcgaggtt aatacttaac tgctaaggcc ccatctactg atctctccac tttaagcaaa
                                                                     1620
attatcagaa ccctgctctc ggatatcaca gaatcttgct tttctctcta taaacacagc
                                                                     1680
                                                                     1740
ccatttatga ggtctgctct atgttctaga cacgtgggta cacgactgtc ctttcctaac
                                                                     1800
accactcaaa ggtaaggttc tagagcacta ctacctaata gatagacctt tcttcaatgg
gtacaatgtt atctaaatat gtgcagcctg ttacgacagc aaccacacgt tactactgag
                                                                     1860
cacctgaaat atggttgtgt gaccaaagaa cctgatgtta aattgtattt aactaaaata
                                                                     1920
gtcacgtgca gctagtggct actgtgttgg acagcacact tctagaaaca gtgtggcatg
                                                                      1980
aaaaaaagtc tctggagtct gacagacctg tgtcagaacc tagctctggt catttaccag
                                                                      2040
ctatgcaacc tactagctat gttacttaac ttctctatgt ctcactttat aacatctaca
                                                                      2100
aaatgagatg acaccattta ccttacagta tttcaggtct gagtgtttat atccatatat
                                                                      2160
gtttacaggt atgtcaacat ggagactggt actcaaactt gcgaaaggtt cctatagggc
                                                                      2220
actaaactca actttttttc accttctact atggtaaata tgcatagcac tgaaaatact
                                                                      2280
                                                                      2340
ttcataatga atagtagtat catgttaagt cactcactgc ttccctccaa aatggctaaa
                                                                      2400
atactaaatt aatactatga gaagtattcc gttaacttgg gaatgactgc cccattcctc
ctcacagtac ggggaaagtg ttaagtatct atagtcctct ccctcttccc ccagagactc
                                                                      2460
ctacagaaat acaagtgtcc tcttcccttc tgctacttcc cttgtgcaaa cgtgaggccg
                                                                      2520
acccagagat agtgaactat gggaagtgaa gtttgtggct tcctgaactg gttcatcatg
                                                                      2580
```

```
cagtgtaaca gcacacaaca cactacctgc tccttcctcc tcttctgctt ctgcattaaa
                                                                    2640
ttgggctcag aaaaatttct gctctgcatt aatttgggct cagaaaaaat gaaatatcat
                                                                    2700
                                                                    2760
caagataatg aactctgaat cctctccaga gtttctggta tattttcttt aactacttac
                                                                    2820
aagtttacac aaaacttacc cgtttgtgtt gcctagcaag tttctcttta gcttcttcca
gctctttctg gatcttcagg acatgtttgt tcatcttacg aattgtagag tgcaaaattt
                                                                    2880
                                                                    2940
cccaaacaaa caatcttaaa gaaatatggc atttggttac tgtatgtcaa gctatggtta
cagaaaataa aatctttcaa cttttgtaat ttcattctta acagctgata cagccttctg
                                                                    3000
teettgggge tgaattagte atetttetee ageaataett acaaattggt ettttattgt
                                                                    3060
aaattgtgca agtatctatc ttcacaccca ttagattcag gcgagccccc tgagggcagc
                                                                    3120
                                                                    3180
actgtgtagt catttttctt atttccatcc cttaccagag gtacatactt actgaattga
aatggcaaac tatgatggac attaacatta aaaatggaaa tacatttttc ctctcctaaa
                                                                    3240
                                                                    3300
tgtaaacatt atgtgtagaa attttctcaa aatggtgacc taacctgaga cttatttccc
                                                                    3360
atgctttata ttatttaact agcacacact cagccaatta ttctcttgga atgtttaaga
aactcattag ttgataatag gtatcaactg atgggctcta agaatgagat aattatatgt
                                                                    3420
cagctttctt actagcaaat acatactaag atcactttgt aggtgctttg aaatgtttgt
                                                                    3480
tgcataagtg tttttctttt aaaaagtaac ttctcagcta cttttgtgtc tataaactag
                                                                    3540
gtctcctaac ccagcacaga atagtacagt tggcccttga acaatacagg tttgaactgt
                                                                    3600
gcaggtccat ttacacatgg gttttcttcc acctgagtca ataagaccaa cccctcctct
                                                                    3660
tcctcagcct actcaatgtg aagataatga agatgacctt tatgatgatc cactctcact
                                                                    3720
                                                                    3780
tcatgaatgt ttcctctctt atgatttatt gtaagaatac aggatataac acatacaaca
caaatatgtg ttaattgact acgttatcac taaggcttct ggtcaacagt aggctactag
                                                                    3840
                                                                    3900
gtggggcgaa gtcggtgtct ctaacccctg ttgttgttca agggtgaact gtacttcctt
                                                                    3960
ctacaaattt tgacccaaat aatagtttaa gtggaagata ataaaacaat ctgttcataa
                                                                    4020
                                                                    4080
aactccaagt ctagaatgtt aggaaacagg acaaaagagc agagcacttt aactctggag
ggggtggact atagtcaggg aaaggtttgc agagttacaa atatttgagc taggtgttaa
                                                                    4140
                                                                    4200
agaacagatg gagctgttga gcactataca gattccagaa tgcctgggtt tgaatgctgg
                                                                    4260
ctctgcactt agttgtgtga ctttgggcag gataaagcac tctgtgacac ttccctattc
                                                                    4320
tgtaaaatgt ggacaataat ggaaccttct ctacggtgat gcggtaagga taaaatgaat
tgaaaacgta aatcactcag gacaatggtt aaaacatact cgggtggtta gttttctgag
                                                                    4380
agtttacaaa tctgaaaagg ttcttctgtt gtctttgttt atgaaggcca acctggccgg
                                                                    4440
tatgacaacc ttagatcaca ccctatcacc ctaacaattc agtatatttc tgatcagtgt
                                                                    4500
cctctggcag taacagatac agtggaaaag ttaaaggttg tgatggactt ttatgttttt
                                                                    4560
acaagtaatt tgctttagtt tcctgctttg tgtcaactcc tgctgccctg gtcctatcag
                                                                    4620
                                                                    4680
ctgtaaagtc cgtgaacttc ataaataaga accaaacagc aaaaactttc tttccgttag
                                                                    4740
ggggaatgag ggcagaatga atcttctgca ttaaacctaa gattatgact gtggtgagaa
cccctttccc ccatccctca ggtgtcttgt taatcaccaa gctttcctgg atccctccat
                                                                    4800
gatttactct actttgactt tgatttctcc tacttcctgg tgtgcattct aggtgccatc
                                                                    4860
cccactgaag ctggaaccct tcccgagttc catctggact agctgagact ctgcacatag
                                                                    4920
                                                                    4980
ctggctcttg ctagttttct ctcccaacag tctggatcct tcaacaggat ttctacttca
                                                                    5040
ctggcttagc cttgattcaa cttaagagtg tccctgctaa gagacgctgc aacctgatag
                                                                    5100
gctgtgtatg tttccactgt ctaggaattt ttgccatgtc caatcctacc agattggacc
attagtatat taatatcaac ctggtttgga ccagaatttg aagcttatgt ataagagacc
                                                                    5160
acacatatat caattettag ggaacacaag ttteataaaa taatttatat taeetggtaa
                                                                    5220
                                                                    5266
agtcacgaga tagttctgaa gagaagatcc aatttgctac ggcagc
 <210> 12756
 <211> 884
 <212> DNA
 <213> Homo sapiens
 <400> 12756
                                                                      60
 ttcagggact ggatggagag aagggaaagg catccattta ttcaggtatt attttttcc
 ctttttaatg atgaaggaag ttgagaccag gagagggaag taacttattc caagttacga
                                                                      120
                                                                      180
 ataagtcaca aaactgggag taaaagctgg gtctcccaat atcctccttc aattctgtct
                                                                      240
 ggtctttact ttctttaaaa aactcttcac tgcttattgc aagagccaga gactcctttt
 attgtgaatg ccagaagggc tctccagtcg tccggaccaa cctccatctg ctgcttgaac
                                                                      300
                                                                      360
 tcctctgcca cttcttgcca aatttgaaca tttccatcat gtttttggaa agcactttct
                                                                      420
 attcatttaa atattcggca gcatgtactg agtgctgtgt gccaagcaca agaatcagaa
 gtaaagacac agtataacag gaaccaagat atacaatgtt tgagaactac tgtttgagaa
                                                                      480
```

```
540
atatgaagta ttagagatgc cctggcagct ctctgaggta tgagaggcat aaagaatgaa
                                                                      600
gtggtcagac cttcccaggt ggcaactaac aggtcagctg aattttaaac aacaaaagg
tagaggatgg gaaggtgggg ggcattggga gtaaagaccc tctaagggta agcttttcct
                                                                      660
                                                                      720
tggtcacttg ggggcactca ggctacctgg aatggtagta acatggcaaa gggatggctt
gttggagatg tcaagagacg acctcctgat gggaccatct cccaatgtgg agcacccagg
                                                                      780
cactggagcc acattgccaa ttcaaatccc ggtcctgccc acggattgtg ggtaatgtta
                                                                      840
                                                                      884
attacctact tccctagact tctgtttcct tcttgtaaag tgtg
<210> 12757
<211> 250
<212> DNA
<213> Homo sapiens
<400> 12757
                                                                       60
acgaggtcag gagatcgaga ccatcctggc taacaaggtg aaaccccgtc tctactaaaa
atacaaaaaa aaattagccg ggcgcggtgg caggcgcctg tagtcccagc tactcgggag
                                                                      120
gctgaggcag gagaatggcg tgaacccggg aagcagagct tgcagtgagc caagattgcg
                                                                      180
ccactgcagt ccgcagtccg gcctgggcga cagagcgaga ctccgtctca aaaaaaaaa
                                                                      240
                                                                      250
aaaaaaagac
<210> 12758
<211> 326
<212> DNA
<213> Homo sapiens
<400> 12758
atgaaatagg ccgggcgcgg tggctcacgc ctgtaatccc agcactttgg gaggccgagg
                                                                       60
cgggtggatc atgaggtcag gagatcgaga ccatcctggc taacaaggag aaaccccgtc
                                                                       120
                                                                       180
tctactaaaa atacaaaaaa ttagccgggc gcggtggcgg gcgcctgtag tcccagctac
tggggaggct gaggcaggag aatggcgtga acccgggaag cggagcttgc agtgagccga
                                                                       240
                                                                       300
gattgcacca ctgcagtccg cagtcgggcc tgggcgacag agcgagactc cgtctcaaaa
                                                                       326
aaaaaaaaa aaaaagaatg aaataa
<210> 12759
<211> 321
<212> DNA
<213> Homo sapiens
<400> 12759
gccgggtgcg gtggctcacg tcctgtaatc ccagcacttt gggaggccga ggcgggtgga
                                                                        60
                                                                       120
tcatgaggtc aggagatcga gaccatcctg gctaacaagg tgaaaccccg tctctactaa
                                                                       180
aaatacaaaa aattagccgg gcgcggtggc gggcgcctgt agtcccagct actggggagg
ctgaggcagg agaatggcgt gaacccggga agcggagctt gcagtgagcc gagattgcgc
                                                                       240
cactgcagtc cgcagtccgg cctgggcgac agagcgagac tccgtctcaa aaaaaaaaa
                                                                       300
                                                                       321
 aaaaaaaaag gaaaaaatac a
 <210> 12760
 <211> 318
 <212> DNA
 <213> Homo sapiens
 <400> 12760
                                                                        60
 gactcacggg cgggcgcggt ggctcacgcc tgtaatccca gcactttggg aggccgaggc
 gggtggatca tgaggtcagg agatcgagac catcctggct aacaaggtga aaccccgtct
                                                                       120
 ctactaaaaa tacaaaaaat tagccaggcg cggtggcggg cgcctgtagt cccagctact
                                                                       180
 cgggaggctg aggcaggaga atggcgtgaa cccgggaagc ggagcttgca gtgagccgag
                                                                       240
                                                                       300
 attgcgccac tgcagtccac agtccggcct gggtgacaga gcgagactcc gtctcaaaaa
```

aaaaaaaaaa aaaaaaaa	318
<210> 12761 <211> 270 <212> DNA <213> Homo sapiens	
<400> 12761 ggaggccgag gcgggtggat catgaggtca ggagatcgag accatcctgg ctaacaaggt gaaaccccgt ctctactaaa aatacaaaaa attaaccggg cccggtggcg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg aacccaggag gcggagcttg cagtgagccg agattgcgcc actgcagtcc gcagtctggc ctgggcgaca gagcgagact ccgtctctaa aaaaaaaaaa	60 120 180 240 270
<210> 12762 <211> 248 <212> DNA <213> Homo sapiens	
<pre><400> 12762 ggtcaggaga tcgagaccat cctggctaac aaggtgaaac cccgtctcta ctaaaaatac aaaaaattag ccgggcgcgg tggcgggcgc ctgtagtccc agctactcgg gaggctgagg caggagaatg gcgtgaaccc gggaagcgga gcttgcagtg agccgagatt gcgccactgc agtccgcagt ccggcctggg cgacagagcg agactccgtc tcaaaaaaaa aaaaaaaat agatcagc</pre>	60 120 180 240 248
<210> 12763 <211> 284 <212> DNA <213> Homo sapiens	
<400> 12763 cagcactttg ggaggccgag gcgggtggat catgacgtca ggagatcgag accaccctgg ctaacaaggt gaaaccccat ctctactaaa aatacaaaaa attagccggg cgcggtggtg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg aacccgggaa gcggagcttg cagtgagccg agattgcgcc actgtggtcc gcagtccggc ctgggcgaca gagcaagact ccgtctcaaa aaaaaaaaaa aaaaaaaaag tcta	60 120 180 240 284
<210> 12764 <211> 33 <212> DNA <213> Homo sapiens	
<400> 12764 gagactccgt ctcaaaaaaa aaaaaaaaaa aat	33
<210> 12765 <211> 1836 <212> DNA <213> Homo sapiens	
<400> 12765 catttgtcca tatctataag actttacttc tgggttctct attctgttct gtttatttat atgtctgtct ttaggacagt actacacagt tttgattccc ctgttgtagg ggaatcttgt tttattgtgc ttcactttat tacgctttgc agataatgca ttgtttacaa atggaaggtt tgtggtaacc ttgcatcaag caagtctatt ggcaccattt ttccaatagc atatgctcac	60 120 180 240

```
tttgtgttct tatgccataa tttggtaatt cttgcaatgt tttcagtttt tttcctcctc
                                                                  300
360
420
                                                                  480
ttctttctgg gacagggtct cattcttctg cccaggttgg agtataccgg cacgatcata
                                                                  540
gcccgctgta gactcaaact cctgacctca agcaatcctc ccttcttggc ctcccaaagt
gctgggatta gaggcatgag ccactgcacc tggccagttt ttcattattc ttatatatgt
                                                                  600
                                                                  660
tatgggaatg tgactagtga tctttgaaga tactattgta actgttttgg gggcaccata
agccataccc atgtaagact tgaactgtgt attccagtga aaggaagagc tgcatgtctg
                                                                   720
                                                                  780
tcactttaaa ttaaaagcta gaaatgatta agtgctgtga ggaaagcatg tcaaaagctg
ggtgagttag gtcaaaagtt aggcctcttg taccaagtag ttagccagct tgtgagtgtg
                                                                   840
aaggaaaatt tcttgcagga aactaaatgt gctccttcag tgaacagtcg aatgttaaga
                                                                   900
                                                                   960
aagcgacaca gggttattgc taatatggag aaagtttagt ggtctgggta gatcaaacca
gccacaattt tcccttgagc caaagcctaa tccagagcaa ggccctaaat ctcttcaatt
                                                                  1020
ctttgaaggc tgagaggagt gaggaaactg cagaagaaat gtttgaagct agcagaggtt
                                                                  1080
gtttcatgat atttgaagaa agaagctacc attataatat gaaagtgcaa ggtgaagcag
                                                                  1140
                                                                  1200
caagtgctga cgtagaagct gcagcaagtt atccagaagc tctagctaag atcattgaga
aaggtggcta cactaaacaa cagattttca atgtaaacca aacagctttc taatggtgaa
                                                                  1260
gataccatcc aggatgagga gtcaatgcct agcttcaaat cttcaaagga caggatggct
                                                                  1320
ttcttgttaa gggccactgc tcatttacca ttctgaaaat cctaggttcc ttaagaatta
                                                                  1380
tgctaatttt actctgcttg tagtgtagaa gtggaagagc aaagcttgga tgacagcaca
                                                                  1440
tctgtttact gcatggctta ctgaatagtt taaacccact gttgagccct actgctcaga
                                                                  1500
aaaaaaagac tootttaaaa atattactgo totggotcac gootgtaato coagcacttt
                                                                  1560
gggaggccga ggcgggtgga tcatgaggtc aggagatcga gaccatcctg gctaacaagg
                                                                  1620
                                                                  1680
tgaaacccca tctctactaa aaatacaaaa aattagccgg gcgcggtggc gggcgcctgt
agtcccagct actcgggagg ctgaggcagg agaatggcgt gaacctggga agcggagctt
                                                                  1740
tcagtgagcc gagattgcgc cactgcggtc cgcagtccgg cctgggcgac agagcaagac
                                                                  1800
                                                                  1836
tccgtctcaa aaaaaaaaaa aaaaaaaaa atatta
<210> 12766
<211> 296
<212> DNA
<213> Homo sapiens
<400> 12766
cggtggctca cgcctgtaat cccagcactt tgggaggccg aggcgggtgg atcatgaggt
                                                                    60
caggagatcg agaccatcct ggctaacaag gtgaaacccc gtctctacta aaaatacaaa
                                                                   120
aaattagccg ggcgcggtgg cgggcgcctg tagtcccagc tactcgggag gctgaggcag
                                                                   180
gagaatggcg tgaacccggg aagcggagct tgcagtaagc cgagattgcg ccactgcagt
                                                                   240
                                                                   296
ccgcagtccg gcctgggcga cagagcgaga ctccgtctca aaaaaaaaa aaaaaa
<210> 12767
<211> 295
 <212> DNA
 <213> Homo sapiens
 <400> 12767
aatcccaaaa ctttgggagg ccgaggcggg tggatcatga ggtcaggaga tcgagaccat
                                                                    60
 cctggctaac aaggtgaaac cccgtctcta ctaaaaatac aaaaaattag ccgggcgcgg
                                                                   120
                                                                   180
 tggcgggcgc ctgtagtccc agctactcgg gaggctgagg caggagaatg gcgtgaaccc
 gggaagcgga gcttgcagtg agccgagatt gcgccactgc agtccgcagt ccggcctggg
                                                                   240
                                                                   295
 cgacagagcg aaactccgtc tcaaaaaaaa aaaaataaaa aataaaaaa ataca
 <210> 12768
 <211> 433
 <212> DNA
 <213> Homo sapiens
 <400> 12768
```

```
tttttaattt tttttttt ttttttttg gtagagactg ggtcttactt tatttcccag
                                                                       60
                                                                      120
gctagtctcg aactcctgtc ttcaagggat cctcccatcc tgacctccca aagtgttggg
                                                                      180
attacacatg tgagccactg gacctggtcc cctttcataa ttgaatatga atgtttaaca
aatagatttg ctgctcgggc tgatttaaat ctaatacggt taaagatgta tgactaaaat
                                                                      240
                                                                      300
acaaggttgt taaataatac tttgtatata ggtaatatat tcctgtgtac taattgtttt
                                                                      360
tattgtggca aaaaaacttt tacacataac ataaaactca ccctccaata gtttccaaat
gtacagtata cttttgccaa ccacatgcat gttgttatga aacagttccc cagaactcct
                                                                      420
                                                                      433
tccacccacc ctg
<210> 12769
<211> 9951
<212> DNA
<213> Homo sapiens
<400> 12769
                                                                       60
agttccgaga ctactgtgct atctgcttaa gatgggagtg gcctgggtct ccaaaagcat
                                                                      120
tggaaaagtg caatttagaa gctgctttct ttgaaggtca ttttttgaaa gtgctgttcg
acagaatggg aagaattctt gatcaggtaa tacattttaa aatactaatt ttcatatttt
                                                                      180
                                                                      240
tttttgccat tcaccacaga atcatctcaa gtcttagtag atcttcaata aagtactttt
                                                                      300
attgttttct tactttttcc actggatgac tttttcatga agcttgattg ccaacaactg
                                                                      360
gcagatttct gatgcattct gtatgttaaa aacatttatt tggcctgaca gctgcttgtt
                                                                      420
tattttactt ctcatgatag gccattgtct taatatcctt aacacatttt ggagatgatt
                                                                      480
aggactgctt ttcttttatg acttgcttag ccttttagtt agtacattta gtacaaatac
agatgctcaa tttggaagac cttaaatgtc atttcagatt gaatcttgaa cactggtctc
                                                                      540
                                                                      600
agtaaaatca cagaatagtg ttagatgaac ctggctcttt agacaaagct tgtaaacgat
actcattttc ataagggaga ggtgaaatag aaaaggttaa tgtactcctt taaaggtgga
                                                                      660
                                                                      720
taaaaatcac catcagctga taagttgcta tgtacatctc atctgactgt taggagaaat
                                                                      780
aaatttggga ttatggaatc cctccttcca tctctcattg gctcataagc ttagtgatga
gagagetttg aaatgettga eteattagaa tetaaacetg aaagaacaca aetageatag
                                                                      840
tactttcctc agtgtggaaa ctgagtggac caatttggaa ttaattttca actgtatgtt
                                                                      900
aaagtacgtg ttctttttt agcattttag ttaaatattt atgtgagcat agggagttgt
                                                                      960
aaaagaaatt tactaagtag gctgtcttca gtaactagaa agtcaaataa agaaattgta
                                                                     1020
                                                                     1080
atctaagaag tatttcacta tgttagagtt tagtcagcgt tgtttctgac ggtaatctct
ataagagacc aggtcctttt tttttcttt tttaacctct taatagcatt cgctgtattt
                                                                     1140
                                                                     1200
ctagtgttgc ttggttggtc gttttaaacc tgacaaccaa agtataaaaa tctggctatt
                                                                     1260
aataggtatt gtggcctcac ctcatggctg tgtaaacctc ctgggtagcc aggatgcatc
agtttattgt ggtttgtttt ttgtttttgt ttttgagcca gtttgctagg cgtagtttaa
                                                                     1320
atcaagcttg ttgcttgatt aagctaacaa gcaagaggta ataacaatga gtatcaagac
                                                                     1380
agtaatgttt aggaattttg accgaaagta ctaaaaagga atctaaattt taaaaagtag
                                                                     1440
                                                                     1500
tttctgaatt gaaagatcta ccctgaatct tcaaccttga gcactttttc tctagtttgt
                                                                     1560
ggagtgctgg cacaaaagga tacattgaaa acagaatatc tgaaatactt aaaatacttt
tcaatttcac cagatagcac ttcatagcac agcgctgatt catagactgt ttcagtcatt
                                                                     1620
cttcctgtaa ccgtgtatca taggcaagag agatttctag tattatttta caaatgagga
                                                                     1680
                                                                      1740
atctttggtt tcagttatgt gacttacagc tggtaagcta tggagccccg tctgaaacct
tttatcttta aaactcttga gccgggtgca actgtagtcc cagctactca ggagtctgag
                                                                      1800
                                                                      1860
gcaggaggat tgcttgaccc caggagttca aggctgtagg gcgctatgat tgtgcctaag
gatagccact gcacactagc ctaggcaaca tagtgagacc ccgtctctaa aacaaaatta
                                                                      1920
                                                                      1980
aaacacaaac aaaaaaaaaa cccttgattt tcaaagcctt ttgggtaaga acgtggtata
gtctgatctc agagataaaa cacaagtcct agaaagctaa gcatttttgg cctagtttta
                                                                      2040
ctttctttcc taaacatttt tgccggaagt gatacttgct tgtagtttct ttttttctt
                                                                      2100
                                                                      2160
tctctcccta tttcttcttc ttttttttt ttctgagacc gagtctcgct ctgtcaccca
                                                                      2220
ggctggaatg cagtggtgtg atcttggctc attgcaacct ctccctcccg gctcaagcga
                                                                      2280
ttctcccgtc tcagcgtcct gagtagctgg gatcacaggt gcacaccacc acgcctggca
aatttttgta tttttaatag agatggggtt tcaccatatt gctcaggctg gtcttgaact
                                                                      2340
                                                                      2400
cctgacctca ggtgatccac ctgcctcggc ctcccaaagt cctgggatta caggcatgaa
ccaccacgcc tggccttctt ctttcttctt ttttcttttt cttttgtttt tctctttgca
                                                                      2460
gggcattttc ttagtataga ttcctaatag ggtctaggta acttgactga gattaaaaat
                                                                      2520
 ttaatatgaa tagtttggca agtggctaat gtcttcatgc ataattgaga acttacagta
                                                                      2580
 tcaagtattc ataacactat tgtgttatca caatgctaat ttgaaaaaat tcataataca
                                                                      2640
 aacatttact attgtttgta acggtggtga ttttaaaaag atagtaaaat actaaagccc
                                                                      2700
```

atagcagaat gtaaagaaca ctgggaacat tgtaaggagg ccaaatcttg tccctgccct 2760 gagcatgatg agtttgaatt tgatcaagta acttagctac ttgtcacatt ttctaattgt 2820 2880 taaagtgaag ttgatattac ttttttaagt caaagtttat tatctcaaaa tttgagttca gtccaaaaac atgggccaag tccatttgtc atgtcagaga aatctggctt gctttccttt 2940 3000 caggtaaata ctgtataaag tataaaataa agggacctca agtaatagat ataaacactt aactaccaac aacttccaaa aaggctagct tgttttaaag ttattaccaa taggaagtag 3060 agaccatttc agagtacagt gaaacaagtt tatcttgttg aaatttattt tcatttttac 3120 3180 tacgttgaga aataatctgt gtcagcctta aatttcttaa gcaacctatg acctacattt 3240 atgttaaaat aaactacaaa ccaaggtaac accacacaga gaaaatacaa agtctaaata gtaatgtatt tgtttaaagc caaattgtac tgatttattt atttaagcac ctgcagatgg 3300 3360 cgaaatttag tgacctaaaa atcttaacta cctgcagtga agagtcatgt acaattctgg acttaagttg tattttaaat tttttctact ttttttttt ttttactaaa tgcattcttt 3420 3480 taaattattt tttgtaaatg attccttcat acctaaaata caatttaatg tgaattcatt gtttattatg agttgagtct cagagaaggc tattctgttg caaatattat caagggagga 3540 ggaatggaga gaagttggtt aatgagtcca aaagtacagt tagaagaaat aagttctagt 3600 attcagtagt acagtaggga aattagttaa caaaaacgta ttgtatattt caaaggagct 3660 3720 agaagagaac tgtgatgttc ccaacacgaa gaaaagataa atgctggagg tgatggatgt 3780 cccagttacc ctaatttggt cattacacat tacacattgt gaaatgtatc aaaatatcac atggacccc cccaaaatag gtacaattat gctatatcaa taaaaaatac ccaaagcccc 3840 caagtattac caagtaggag aatttactct taaactatcc tttactggga atacatattt 3900 cctttcaatt accttgctta cagctaggtt ttgaaaaaaa ataataaatg acttggagca 3960 4020 gtttttaatt ctttaaaaaa atccatgttc atgaatctag tagtaagtta gaaagactaa 4080 aatgggcctt acagcatagg acttgagagt ttctgtttat gtaacaaaac atgttcatcg 4140 tagcgtctgt agctgtggtg attttcaaaa gatagtaaaa tgccgaagtc tgtagcagaa 4200 ctggcgtgtg cccgagcatt ctccactgaa tgccagagat tgacttcctc attgctattc actgtgatca aggctttgca ggttgttcag tggctgagag tgaaacattc cgctgtgctg 4260 gctgatgttg cacttggtcc tgactccctc ttccctccac tgtgctgcag tgtctgtctc 4320 4380 actcttgcca cctgggttct ctgcagcctc ctcactgtag ttagttttgt tgcaaccaat ccgtttcctt tggctgctta gaagaagcaa actggaaggg gtgagaagtt tctattgaaa 4440 gttctgagca agtagtagca actccttgtg tagtgtgcct tttgctttgt tgacatgact 4500 ctgtaaagcc cctttctgtg aagaataaac agacaattag aattcaagta aaatcacgat 4560 attacatgta aaacaagtgt gaggaactgt acacagatat acagttgttt ggagaaagtt 4620 aatactcatg caagaaatga gatgatccct ctctgtaatc accattttga accttctcat 4680 ccactttgag gcatagggtc gtcatcagtt ctatccccaa gtactttcat ttcattctgg 4740 tgacaaggtt ctgtgattcg actttatttt actgtatgtg tttttgggaa ttggcagtag 4800 ttgaataatc tgaggtgagg aatatcactt ctaaaattac tatatttaaa aaggtgtaat 4860 atcttcccat cttgtttttt ggtcttatgc tcaatgggtc ctctgtaatt aatattatat 4920 atgacacact ggtgcttttt tatgacccct tgaacaattt cattaattga atcaacctgc 4980 ataaaataaa cattctgact ctgtcacata tttgtcttta tatgtttata tattttttaa 5040 5100 5160 gtagatattt tcattgcaga agagcatgcg cagcagggag gaagatggtg gattctgctt 5220 tctttttttt tgtttgagac agagtttcgc tcttgttgcc caggctggag tgcagtggcg tgatctcggc ccactgcaac ctccacctcc tgggttcaag cagttctctt gcctcagcct 5280 cccaagtagc tgggattaca ggcatgtgcc accacaccgg gctaattttg tattttgagt 5340 5400 agagacgggg tttctccatg ttggtcaggc tggtctcgaa ctcccaacct caggtgatcc gcccgcctca gcctcccaaa gtactgggat tacaggtgtg agccactggg cctggccaga 5460 5520 ttctcctttc ttaaaagaac aaattgaaat agtaaattaa gcacaccggt atacattatt tttaaatgtc tttctgtttt ttatctctcc atagccatat gatgtaaact tacaagtaac 5580 ctcagtgtta tctagacttt ctctcttccc tcatccacac atccacgagt accttttgga 5640 5700 tccttacgtg aacctcgctc ctggctgtag atctctcttc tctgtaattg tcagggtgag 5760 ttactagttc tgttatattc cctaggattg ataaatctgt gcaattaata tgttaatatc 5820 attgtatgca gttagtgtca cataatgaaa aatatatcta ctgcttaaaa gtaattatta tacattctga actactattt tttcaattat tttaaataat atgtaacttt tattttaaag 5880 aattaggtat gagtccttgg ttaaagatga ttatatgagt agtgaaagtt tacgttcttt 5940 attaaatagt agggaaggaa gatttttctt tttagatcct gaggttgtct gtgtagctga 6000 tttcaggaac tgaagtgcct tgcctctgtg atgcaggttg ttggagacct tatgcttcga 6060 atccagcgta ttcaagactt tactcccaag cttctgttag tcagaaagcg gttacttggt 6120 6180 ttggaacctg aaggeectat gtaagttagt gttttacatt tttttaatee aaaaatttea gtgaacttaa tgatcggctg ctatcttgaa ttgatttatt gtctgttttt tccttaccag 6240 tattgaccac atcacactgc tagagggtgt gattgtgtta gaagagttct gtaaggagct 6300 ggcggcaatc gcatttgtaa aatatcatgc ttcctccaca ccataaataa catctttcat 6360

6420 gtaactgggg gaacagaact actgtgtaca tttcaccaaa aaagactcag ttccacccag 6480 ccacaagagg ataaaaagcc tttttaaacg cagtattgct gtaaactgga cagaaccatt 6540 aagaacctat tgagtggaca ttcttggtga aatgttgtat aatgttgttt tcattggctt 6600 tatcataatg gttctatata tacaattgca cattgttgaa tccaggatac aatcaaagga acttcaggaa ataagcattt ctaatgactg tgaaaagctg caatatttcc aatgtcatga 6660 ctttgatgat atttctgtta tattaatgtc cttttaggta gcaaggcatt ttgacattct 6720 6780 ctgggactca aatgcttgta ttcttttgga ttaataagta gcaaaaaaaa atcactaatt 6840 ttataacttt ttaaggtcag aattcttatc aaacaaaata tgaaaactgt aaatgagaaa 6900 aaaatacaat tcagaaacca ttgaatgaat taattatagg cgataaaaat gtgtagagca ccattaactt tcttcagctt ttttaagaat aacaatttaa tatgataaat tcttgattaa 6960 tataatatat ctatattttt aaagaaatgt tcttttactc ttttgtgcac atagccatgt 7020 7080 tagtgatttt cttcatgtgt gggtcccagt ttatttaaac tgtgtcgttt tcgcagcagt 7140 gttcaatttg ctcaccattg gtagtgtttg ctaaaattgt attttttaa gctaagtaac 7200 atgtactggg ttgagaacct ttttcccccc tctccctctc agaaaattgc tttataaaat 7260 tgctttataa tttgattttc ttactgaaac gcatggtggt gtctaggtgg ggaactgact gataaccctt ggcagcaatc aaagtgccag tggctcctcg atgtttacat ttttttctat 7320 7380 tttgttcagt cttttgtttt aaatgattct aaagagatta aagaaaacag agttttaaat 7440 gtcctattta catgttaaag gatttgggga aattgggtat gtatgtgaat gggtgtacat 7500 gtaggaacct gtagttcagc aaagctgcgc tgggcacagc atgcttgtac ttgattgaca 7560 aaatcgtgtt tgccagtcca ctttctattt ttcctttaag tgatgctgat cactcaaata atgcttttaa gctattgttt gtttttattt gacatgttaa gccgcagcac tttcttcttc 7620 7680 atctttccat ttactgatat ttgggggaac aggctatcaa aggttccggc ttgaagggaa 7740 ctgtcactac cccctctagg aagttatttt atgtagcatg tttgcatata cgcattgtgt 7800 ggcatgtgca tagaggcttg ttttacacct atctgctcat tttgttgtgt tagcttttct 7860 ggtttatttc atagtttgtt cttgctattt attaagaaca gaatatcaaa agattatgaa 7920 tagcctcagc tctagaatgc ttaccactgt taaaacaaca aaaagactaa acctctaatt 7980 tcatgcaaat ctttgttagc ttattctaag aaatttatta agtaaaacaa agaaaaaaca gaagtgggag atagttattt tgtgcgtaat tttctttaaa tcattttgaa tgatgtgaag 8040 gcattcagtt tgctgtattt ttttaatcac ttcatacaag gaaaacttcg acatttacat 8100 ttctagatgt agtaacagtc tactttgata tatgagtatt taaactaagg cattaagaga 8160 8220 tattagatat ttcttaatgt tttcatagtg ctcaataggt gtagtagcaa tgatattacc tctgaaacca aatactcttt tatccttgat tccactatgg gaccttataa ctagtccatg 8280 8340 aaaccaagct cagaaaagct ttaactctta tatttgtgta tatgtatgct gcttctgaaa atataatttt tctaagttgt tgtaatgact ttaatttgta atcagctaag gcttaagatt 8400 tcatttgttt ctaagtttct gtttttcatc ccttcttttt tcttttatat ttagttcaga 8460 cctagagcca gtagaagctc tcacagtgag ttcaatttgt tagtgaaaca ttgtactgca 8520 tcaccagttt ttcttacctt ctgttgacag ctgaatattt ctgttactca gtacttgcaa 8580 aaacagtaac taaaatgcac tatgctgagt ggaaagcacc gtcataacaa ttgattgcca 8640 tagcaagttc caaagtgaat ttcagccttg cttcacattt gtatcaataa atatgcacat 8700 tttttaaaac tttctaacaa tatagtcttt ggatttgttt ttagttatga gccgcattct 8760 8820 ttacttgata gaactcagat ttgtcttagc ctattgccat atagtactca ccttataact 8880 atgtaacttt ctcgtaatgt atctgtttgt gcaatatgga agctgtgagt ggattcatag 8940 9000 gaccaaaatt cttagctcgc ttacactgtt gctagtgtaa acattgttac acttaatttt acagggcaca aattatggaa ttacttcata aattcatggt aatgttttca taaattattg 9060 cattaacata caattgccat ttaattatga agtccatcag tattgacaga agacgttaca 9120 gtgaagtgct aaaaccacac tatatggtaa ttatattttg ggttatgtag taaatcaaat 9180 atgcatgtca ttgtgacact ttatgtgtta aaacatggta gataatcaca ttttctgggc 9240 cctgtaaaat agtgttactg taatactctg ttttgcctcc tgccttgttt acattaaaca 9300 ggatatttgg taaatttttt tgtattgaaa gttgtgtagg ttactgacag tgttaccagc 9360 gtctggaatt cttggtccct ccgtggagaa actcttcaga tggtcattgt gtacctactc 9420 tctcttcaaa ggaagttgtg atcaagttca actttttgtg ctaacaatgc atgcaggact 9480 aagagggatg atctaaaaaa taaataatgt aatttaaaca aaacgtctta tgtttttgta 9540 aaattctaat tgggaacatt ttatccaatg ataaatctca aacaattttt aactttttgc 9600 accccagca cacaaaggga tatggcaccc tacaatcagt gggtctctat agtattctag 9660 9720 ggagagaaca aaaagcaatg tatctatttg tggaggagag atgtgtagct tgaaaaattc ccccaggaaa acctccactt cccttcttaa taatcactgc ccaaaaggaa ggaatgttta 9780 tgcacgtctc aaaaacaatt ttttttttt tgaggcagag tctcgctctg ttccccaggc 9840 9900 tggaatgcaa tggcatgatc tcagctcact gcaacctccg ccccctgggt tcaagtgatt ctcctgcccc agcctcctga gtagctggga ttacaggtgc ctgccaccat g 9951 <210> 12770

```
<211> 9951
<212> DNA
<213> Homo sapiens
<400> 12770
                                                                       60
agttccgaga ctactgtgct atctgcttaa gatgggagtg gcctgggtct ccaaaagcat
                                                                      120
tggaaaagtg caatttagaa gctgctttct ttgaaggtca ttttttgaaa gtgctgttcg
acagaatggg aagaattctt gatcaggtaa tacattttaa aatactaatt ttcatatttt
                                                                      180
tttttgccat tcaccacaga atcatctcaa gtcttagtag atcttcaata aagtactttt
                                                                      240
                                                                      300
attgttttct tactttttcc actggatgac tttttcatga agcttgattg ccaacaactg
                                                                      360
qcaqatttct gatgcattct gtatgttaaa aacatttatt tggcctgaca gctgcttgtt
                                                                      420
tattttactt ctcatgatag gccattgtct taatatcctt aacacatttt ggagatgatt
                                                                      480
aggactgctt ttcttttatg acttgcttag ccttttagtt agtacattta gtacaaatac
                                                                      540
agatgctcaa tttggaagac cttaaatgtc atttcagatt gaatcttgaa cactggtctc
agtaaaatca cagaatagtg ttagatgaac ctggctcttt agacaaagct tgtaaacgat
                                                                      600
                                                                      660
actcattttc ataagggaga ggtgaaatag aaaaggttaa tgtactcctt taaaggtgga
taaaaatcac catcagctga taagttgcta tgtacatctc atctgactgt taggagaaat
                                                                      720
aaatttggga ttatggaatc cctccttcca tctctcattg gctcataagc ttagtgatga
                                                                      780
gagagetttg aaatgettga eteattagaa tetaaaeetg aaagaaeaca aetageatag
                                                                      840
                                                                      900
tactttcctc agtgtggaaa ctgagtggac caatttggaa ttaattttca actgtatgtt
aaagtacgtg ttctttttt agcattttag ttaaatattt atgtgagcat agggagttgt
                                                                      960
                                                                     1020
aaaagaaatt tactaagtag gctgtcttca gtaactagaa agtcaaataa agaaattgta
atctaagaag tatttcacta tgttagagtt tagtcagcgt tgtttctgac ggtaatctct
                                                                     1080
ataagagacc aggtcctttt tttttcttt tttaacctct taatagcatt cgctgtattt
                                                                     1140
ctagtgttgc ttggttggtc gttttaaacc tgacaaccaa agtataaaaa tctggctatt
                                                                     1200
aataggtatt gtggcctcac ctcatggctg tgtaaacctc ctgggtagcc aggatgcatc
                                                                     1260
agtttattgt ggtttgtttt ttgtttttgt ttttgagcca gtttgctagg cgtagtttaa
                                                                     1320
atcaagcttg ttgcttgatt aagctaacaa gcaagaggta ataacaatga gtatcaagac
                                                                     1380
agtaatgttt aggaattttg accgaaagta ctaaaaagga atctaaattt taaaaagtag
                                                                     1440
tttctgaatt gaaagatcta ccctgaatct tcaaccttga gcactttttc tctagtttgt
                                                                     1500
ggagtgctgg cacaaaagga tacattgaaa acagaatatc tgaaatactt aaaatacttt
                                                                     1560
tcaatttcac cagatagcac ttcatagcac agcgctgatt catagactgt ttcagtcatt
                                                                     1620
cttcctgtaa ccgtgtatca taggcaagag agatttctag tattatttta caaatgagga
                                                                     1680
atctttggtt tcagttatgt gacttacagc tggtaagcta tggagccccg tctgaaacct
                                                                     1740
tttatcttta aaactcttga gccgggtgca actgtagtcc cagctactca ggagtctgag
                                                                     1800
                                                                     1860
gcaggaggat tgcttgaccc caggagttca aggctgtagg gcgctatgat tgtgcctaag
gatagccact gcacactagc ctaggcaaca tagtgagacc ccgtctctaa aacaaaatta
                                                                     1920
aaacacaaac aaaaaaaaaa cccttgattt tcaaagcctt ttgggtaaga acgtggtata
                                                                     1980
gtctgatctc agagataaaa cacaagtcct agaaagctaa gcatttttgg cctagtttta
                                                                     2040
                                                                     2100
ctttctttcc taaacatttt tgccggaagt gatacttgct tgtagtttct ttttttctt
                                                                     2160
tctctcccta tttcttcttc ttttttttt ttctgagacc gagtctcgct ctgtcaccca
ggctggaatg cagtggtgtg atcttggctc attgcaacct ctccctcccg gctcaagcga
                                                                     2220
ttctcccgtc tcagcgtcct gagtagctgg gatcacaggt gcacaccacc acgcctggca
                                                                     2280
aatttttgta tttttaatag agatggggtt tcaccatatt gctcaggctg gtcttgaact
                                                                     2340
cctgacctca ggtgatccac ctgcctcggc ctcccaaagt cctgggatta caggcatgaa
                                                                     2400
ccaccacgcc tggccttctt ctttcttctt ttttcttttt cttttgtttt tctctttgca
                                                                     2460
gggcattttc ttagtataga ttcctaatag ggtctaggta acttgactga gattaaaaat
                                                                     2520
ttaatatgaa tagtttggca agtggctaat gtcttcatgc ataattgaga acttacagta
                                                                     2580
tcaagtattc ataacactat tgtgttatca caatgctaat ttgaaaaaat tcataataca
                                                                     2640
aacatttact attgtttgta acggtggtga ttttaaaaaag atagtaaaat actaaagccc
                                                                      2700
atagcagaat gtaaagaaca ctgggaacat tgtaaggagg ccaaatcttg tccctgccct
                                                                     2760
gagcatgatg agtttgaatt tgatcaagta acttagctac ttgtcacatt ttctaattgt
                                                                      2820
taaagtgaag ttgatattac ttttttaagt caaagtttat tatctcaaaa tttgagttca
                                                                      2880
gtccaaaaac atgggccaag tccatttgtc atgtcagaga aatctggctt gctttccttt
                                                                      2940
caggtaaata ctgtataaag tataaaataa agggacctca agtaatagat ataaacactt
                                                                     3000
aactaccaac aacttccaaa aaggctagct tgttttaaag ttattaccaa taggaagtag
                                                                      3060
                                                                      3120
agaccatttc agagtacagt gaaacaagtt tatcttgttg aaatttattt tcatttttac
tacgttgaga aataatctgt gtcagcctta aatttcttaa gcaacctatg acctacattt
                                                                      3180
atgttaaaat aaactacaaa ccaaggtaac accacacaga gaaaatacaa agtctaaata
                                                                      3240
```

3300 gtaatgtatt tgtttaaagc caaattgtac tgatttattt atttaagcac ctgcagatgg cgaaatttag tgacctaaaa atcttaacta cctgcagtga agagtcatgt acaattctgg 3360 3420 3480 taaattattt tttqtaaatg attccttcat acctaaaata caatttaatg tgaattcatt gtttattatg agttgagtct cagagaaggc tattctgttg caaatattat caagggagga 3540 ggaatggaga gaagttggtt aatgagtcca aaagtacagt tagaagaaat aagttctagt 3600 3660 attcagtagt acagtaggga aattagttaa caaaaacgta ttgtatattt caaaggagct agaagagaac tgtgatgttc ccaacacgaa gaaaagataa atgctggagg tgatggatgt 3720 cccagttacc ctaatttggt cattacacat tacacattgt gaaatgtatc aaaatatcac 3780 atggacccc cccaaaatag gtacaattat gctatatcaa taaaaaatac ccaaagcccc 3840 caagtattac caagtaggag aatttactct taaactatcc tttactggga atacatattt 3900 3960 cctttcaatt accttgctta cagctaggtt ttgaaaaaaa ataataaatg acttggagca 4020 qtttttaatt ctttaaaaaa atccatgttc atgaatctag tagtaagtta gaaagactaa 4080 aatgggcctt acagcatagg acttgagagt ttctgtttat gtaacaaaac atgttcatcg 4140 tagcgtctgt agctgtggtg attttcaaaa gatagtaaaa tgccgaagtc tgtagcagaa 4200 ctggcgtgtg cccgagcatt ctccactgaa tgccagagat tgacttcctc attgctattc 4260 actgtgatca aggctttgca ggttgttcag tggctgagag tgaaacattc cgctgtgctg 4320 gctgatgttg cacttggtcc tgactccctc ttccctccac tgtgctgcag tgtctgtctc 4380 actcttgcca cctgggttct ctgcagcctc ctcactgtag ttagttttgt tgcaaccaat 4440 ccgtttcctt tggctgctta gaagaagcaa actggaaggg gtgagaagtt tctattgaaa 4500 gttctgagca agtagtagca actccttgtg tagtgtgcct tttgctttgt tgacatgact 4560 ctqtaaaqcc cctttctgtg aagaataaac agacaattag aattcaagta aaatcacgat attacatgta aaacaagtgt gaggaactgt acacagatat acagttgttt ggagaaagtt 4620 4680 aatactcatg caagaaatga gatgatccct ctctgtaatc accattttga accttctcat ccactttgag gcatagggtc gtcatcagtt ctatccccaa gtactttcat ttcattctgg 4740 tgacaaggtt ctgtgattcg actttatttt actgtatgtg tttttgggaa ttggcagtag 4800 ttgaataatc tgaggtgagg aatatcactt ctaaaaattac tatatttaaa aaggtgtaat 4860 atcttcccat cttgtttttt ggtcttatgc tcaatgggtc ctctgtaatt aatattatat 4920 atgacacact ggtgcttttt tatgacccct tgaacaattt cattaattga atcaacctgc 4980 ataaaataaa cattctgact ctgtcacata tttgtcttta tatgtttata tattttttaa 5040 5100 gtagatattt tcattgcaga agagcatgcg cagcagggag gaagatggtg gattctgctt 5160 tcttttttt tgtttgagac agagtttcgc tcttgttgcc caggctggag tgcagtggcg 5220 5280 tgatctcggc ccactgcaac ctccacctcc tgggttcaag cagttctctt gcctcagcct cccaagtagc tgggattaca ggcatgtgcc accacaccgg gctaattttg tattttgagt 5340 agagacgggg tttctccatg ttggtcaggc tggtctcgaa ctcccaacct caggtgatcc 5400 gcccgcctca gcctcccaaa gtactgggat tacaggtgtg agccactggg cctggccaga 5460 ttctcctttc ttaaaagaac aaattgaaat agtaaattaa gcacaccggt atacattatt 5520 tttaaatgtc tttctgtttt ttatctctcc atagccatat gatgtaaact tacaagtaac 5580 ctcagtgtta tctagacttt ctctcttccc tcatccacac atccacgagt accttttgga 5640 tccttacgtg aacctcgctc ctggctgtag atctctcttc tctgtaattg tcagggtgag 5700 ttactagttc tgttatattc cctaggattg ataaatctgt gcaattaata tgttaatatc 5760 attgtatgca gttagtgtca cataatgaaa aatatatcta ctgcttaaaa gtaattatta 5820 tacattctga actactattt tttcaattat tttaaataat atgtaacttt tattttaaag 5880 aattaggtat gagtccttgg ttaaagatga ttatatgagt agtgaaagtt tacgttcttt 5940 attaaatagt agggaaggaa gatttttctt tttagatcct gaggttgtct gtgtagctga 6000 tttcaggaac tgaagtgcct tgcctctgtg atgcaggttg ttggagacct tatgcttcga 6060 atccagcgta ttcaagactt tactcccaag cttctgttag tcagaaagcg gttacttggt 6120 ttggaacctg aaggeectat gtaagttagt gttttacatt tttttaatce aaaaatttea 6180 gtgaacttaa tgatcggctg ctatcttgaa ttgatttatt gtctgttttt tccttaccag 6240 tattgaccac atcacactgc tagagggtgt gattgtgtta gaagagttct gtaaggagct 6300 ggcggcaatc gcatttgtaa aatatcatgc ttcctccaca ccataaataa catctttcat 6360 6420 gtaactgggg gaacagaact actgtgtaca tttcaccaaa aaagactcag ttccacccag 6480 ccacaagagg ataaaaagcc tttttaaacg cagtattgct gtaaactgga cagaaccatt 6540 aagaacctat tgagtggaca ttcttggtga aatgttgtat aatgttgttt tcattggctt 6600 tatcataatg gttctatata tacaattgca cattgttgaa tccaggatac aatcaaagga acttcaggaa ataagcattt ctaatgactg tgaaaagctg caatatttcc aatgtcatga 6660 6720 ctttgatgat atttctgtta tattaatgtc cttttaggta gcaaggcatt ttgacattct 6780 ctgggactca aatgcttgta ttcttttgga ttaataagta gcaaaaaaaa atcactaatt ttataacttt ttaaggtcag aattcttatc aaacaaaata tgaaaactgt aaatgagaaa 6840 6900 aaaatacaat tcagaaacca ttgaatgaat taattatagg cgataaaaat gtgtagagca

```
6960
ccattaactt tcttcagctt ttttaagaat aacaatttaa tatgataaat tcttgattaa
tataatatat ctatattttt aaagaaatgt tettttaete ttttgtgeae atageeatgt
                                                                    7020
                                                                    7080
tagtgatttt cttcatgtgt gggtcccagt ttatttaaac tgtgtcgttt tcgcagcagt
                                                                    7140
qttcaatttg ctcaccattg gtagtgtttg ctaaaattgt attttttaa gctaagtaac
                                                                    7200
atgtactggg ttgagaacct ttttcccccc tctccctctc agaaaattgc tttataaaaat
                                                                    7260
tgctttataa tttgattttc ttactgaaac gcatggtggt gtctaggtgg ggaactgact
                                                                    7320
gataaccett ggcagcaate aaagtgecag tggeteeteg atgtttaeat ttttttetat
                                                                    7380
tttgttcagt cttttgtttt aaatgattct aaagagatta aagaaaacag agttttaaat
gtcctattta catgttaaag gatttgggga aattgggtat gtatgtgaat gggtgtacat
                                                                    7440
gtaggaacct gtagttcagc aaagctgcgc tgggcacagc atgcttgtac ttgattgaca
                                                                    7500
                                                                    7560
aaatcgtgtt tgccagtcca ctttctattt ttcctttaag tgatgctgat cactcaaata
                                                                    7620
atgcttttaa gctattgttt gtttttattt gacatgttaa gccgcagcac tttcttcttc
                                                                    7680
atctttccat ttactgatat ttgggggaac aggctatcaa aggttccggc ttgaagggaa
                                                                    7740
ctgtcactac cccctctagg aagttatttt atgtagcatg tttgcatata cgcattgtgt
ggcatgtgca tagaggcttg ttttacacct atctgctcat tttgttgtgt tagcttttct
                                                                    7800
ggtttatttc atagtttgtt cttgctattt attaagaaca gaatatcaaa agattatgaa
                                                                    7860
                                                                    7920
tagcctcagc tctagaatgc ttaccactgt taaaacaaca aaaagactaa acctctaatt
                                                                    7980
tcatgcaaat ctttgttagc ttattctaag aaatttatta agtaaaacaa agaaaaaca
                                                                    8040
gaagtgggag atagttattt tgtgcgtaat tttctttaaa tcattttgaa tgatgtgaag
                                                                    8100
gcattcagtt tgctgtattt ttttaatcac ttcatacaag gaaaacttcg acatttacat
ttctagatgt agtaacagtc tactttgata tatgagtatt taaactaagg cattaagaga
                                                                    8160
tattagatat ttcttaatgt tttcatagtg ctcaataggt gtagtagcaa tgatattacc
                                                                    8220
tctgaaacca aatactcttt tatccttgat tccactatgg gaccttataa ctagtccatg
                                                                    8280
                                                                    8340
aaaccaagct cagaaaagct ttaactctta tatttgtgta tatgtatgct gcttctgaaa
                                                                    8400
atataatttt tctaagttgt tgtaatgact ttaatttgta atcagctaag gcttaagatt
                                                                    8460
tcatttqttt ctaaqtttct gtttttcatc ccttcttttt tcttttatat ttagttcaga
                                                                    8520
cctagagcca gtagaagctc tcacagtgag ttcaatttgt tagtgaaaca ttgtactgca
                                                                    8580
tcaccagttt ttcttacctt ctgttgacag ctgaatattt ctgttactca gtacttgcaa
                                                                    8640
aaacagtaac taaaatgcac tatgctgagt ggaaagcacc gtcataacaa ttgattgcca
                                                                    8700
tagcaagttc caaagtgaat ttcagccttg cttcacattt gtatcaataa atatgcacat
tttttaaaac tttctaacaa tatagtcttt ggatttgttt ttagttatga gccgcattct
                                                                    8760
                                                                    8820
ttacttgata gaactcagat ttgtcttagc ctattgccat atagtactca ccttataact
                                                                    8880
atgtaacttt ctcgtaatgt atctgtttgt gcaatatgga agctgtgagt ggattcatag
8940
gaccaaaatt cttagctcgc ttacactgtt gctagtgtaa acattgttac acttaatttt
                                                                    9000
                                                                    9060
acagggcaca aattatggaa ttacttcata aattcatggt aatgttttca taaattattg
cattaacata caattgccat ttaattatga agtccatcag tattgacaga agacgttaca
                                                                    9120
gtgaagtgct aaaaccacac tatatggtaa ttatattttg ggttatgtag taaatcaaat
                                                                    9180
atgcatgtca ttgtgacact ttatgtgtta aaacatggta gataatcaca ttttctgggc
                                                                    9240
cctgtaaaat agtgttactg taatactctg ttttgcctcc tgccttgttt acattaaaca
                                                                    9300
ggatatttgg taaatttttt tgtattgaaa gttgtgtagg ttactgacag tgttaccagc
                                                                    9360
gtctggaatt cttggtccct ccgtggagaa actcttcaga tggtcattgt gtacctactc
                                                                    9420
tctcttcaaa ggaagttgtg atcaagttca actttttgtg ctaacaatgc atgcaggact
                                                                    9480
aagagggatg atctaaaaaa taaataatgt aatttaaaca aaacgtctta tgtttttgta
                                                                    9540
aaattctaat tgggaacatt ttatccaatg ataaatctca aacaattttt aactttttgc
                                                                    9600
acccccagca cacaaaggga tatggcaccc tacaatcagt gggtctctat agtattctag
                                                                    9660
                                                                    9720
ggagagaaca aaaagcaatg tatctatttg tggaggagag atgtgtagct tgaaaaattc
ccccaggaaa acctccactt cccttcttaa taatcactgc ccaaaaggaa ggaatgttta
                                                                    9780
                                                                    9840
tgcacgtctc aaaaacaatt ttttttttt tgaggcagag tctcgctctg ttccccaggc
tggaatgcaa tggcatgatc tcagctcact gcaacctccg cccctgggt tcaagtgatt
                                                                    9900
ctcctgcccc agcctcctga gtagctggga ttacaggtgc ctgccaccat g
                                                                    9951
<210> 12771
<211> 102
<212> DNA
```

60 102

<213> Homo sapiens

<400> 12771

```
<210> 12772
<211> 147
<212> DNA
<213> Homo sapiens
<400> 12772
ggtcccagct actcgggagg cttaggcagg agaatggcgt gaacccagga ggtggagctt
                                                                       60
gcagtgagcc gagatcgcgc cactgcactc cagcctgggc gacagagcga gactccatct
                                                                      120
                                                                      147
caaaaaaaa aaaaaaaaa aattgtg
<210> 12773
<211> 4678
<212> DNA
<213> Homo sapiens
<400> 12773
                                                                       60
ctctggaaat ccttgtaatc ttgaaggaat ggacctcaaa gtaaagagtc ttctcccact
                                                                      120
accttttaca tacacctcat ttactcattt aaaaaatcct cagtaatctc ttactttctg
                                                                      180
ccctctactc catcaaaatg gattaattac ctttagaata ttaccatagg aacatattta
                                                                      240
ttctcctttc tttaggttga agaaaaatag attagggaaa gacattgcta tttgctgttt
                                                                      300
gcttactgga ttatcacagt tgtccactgt tttttcatgt tgaatctgca gtggagaaca
                                                                      360
ctgaaaaata cgatttttat tttctctcct gattttacca ttgggagaaa tcaggtctgt
                                                                      420
gtaatttaga tacactgatt ctttagcagg gcaaggttca gcatatgtgg cagttttact
                                                                      480
gatagtttga gccaatgaaa aagaactctg ccatggaaat gtgttgtctt taaatttagt
                                                                      540
acttgtaagc cctgtttcaa gtaccataaa gaacaagttg aacttttaca tgccttatct
tctggcatgc ccttccaagt tattctctgt actattatct taacattttt attgtactaa
                                                                      600
gagtttataa agtattttgt aacattttca gctgattttg atccttaggg caactccata
                                                                      660
aagaaggtaa aacaagtaca ttattataaa cattttaggc caggcgtggt ggctcacacc
                                                                      720
                                                                      780
tataatccca gcactttggg aggtgggtgg atcatctgag gtcaggaatt cgagacctgg
ccaacatggt gaaaccccgt ctctactaaa aatataaaaa ttagccgggc gtggtggcat
                                                                      840
                                                                      900
gtgcctgtag tcccagctac tcaggaggct gaggcaggag aatcgcttga acgtgggagg
cagaggttgc agtgaaccga gatcatgcca ctgcactcca gcctgggcaa cagaacgata
                                                                      960
ctctgtctca aaaaaaaaa aaattagccg gtcgtggtag tgcatgcctg taatcccagc
                                                                     1020
tactcaggaa aatcacttga acccaggagg tggaatttta ggccatttgg gaggctgagg
                                                                     1080
tgggtggatc acctgaggtc aggaattcga gaccaccctg gccaacatgg tgaaacccca
                                                                     1140
tctctactaa aaatacaaaa attagccggg catggtggcg tgcgcctgta gtcctagcaa
                                                                     1200
cttgggaggc tgaggcagga gaatagcttg aacccaggag gtggaagttg cagtgagcca
                                                                     1260
agatcatgcc actgcactcc agcctgggtg acagagcaag accctgtctc tgaaaaaaag
                                                                     1320
aaacaaagcc cgggcatggt ggctcacggc tgtaatccca gcactttgag gggccgaggc
                                                                     1380
aggcagatca ctaagacagg agttcaagac cagcccggcc aacatagtga aaccccgtct
                                                                     1440
ctactaaaaa tacaaaaatt agccgggcat ggtggcacac acctatagtc ctagcaactt
                                                                     1500
                                                                     1560
gggaggctga ggcaggagaa tagcttgaac ccgggaggtg gagcttgcag tgagctgagg
tcgcaccact gcactccagc aacagagtaa gactccatct caaaaaaaaa taaaaataag
                                                                     1620
taaataaaga ttataaaaac aagaaacaga atcaggttgg ttaagtgtct ggctgaaagt
                                                                     1680
                                                                     1740
gcaacatgaa gggtctctga cccaggtcct ctgacttgaa ggccagtgct ctttctatta
tactataatg cttctccata ttataagttg aggtttaata agatcaggct ttgggtaagg
                                                                     1800
                                                                     1860
aaaaggctac agtgggggtt atgataagaa cttgggttct ctgcctatgt atcttccctt
                                                                     1920
gaccccttc tgttactcca agaggccatg atgtgtaagg aaaagagctc agcccagctg
agctaggtaa cctaactgtt tcagcaagaa attgttctga gaatgatgaa tgctgaaagt
                                                                     1980
                                                                     2040
gagactgtga gatatttatt ttttttattt gtttttaaga ttatggcatc gtcaaagcat
tgtggtgtct tttttactgc tgcttgctgt gcttatagct acgtattatg ttgaaggagt
                                                                     2100
                                                                     2160
gcatcaacag gtgagaggtc gagcaattct gtttctagtc ttgcacattc tctaattctc
                                                                     2220
taatctcagt ttcaaatggg atgaatgtgg gttttataga atttctaccc tcaacattat
ctcataacta gtatctcaaa tgttttactt ttaaaggcat acactaaaaa tattcttgtg
                                                                     2280
                                                                     2340
atgttttatg gctgctgagg atttatatgt ggtgtgtgtg attcctttta ccttcaaaga
                                                                     2400
ttttttttt tttaaagaca gagtctcgct ctgtcaccca ggttggagcg cagtggtgtg
                                                                     2460
atctgagctc actgcaacct ctgcctcctg ggttcaagca attctcctgc tgtagcctcc
caagtagctg ggattacagg cacctgccac cacacccagc taatttttt tgtattttg
                                                                     2520
```

```
tagagatggg gttttgccat gttggccagg ctggtctcaa actcctgacc tcaggtgatc
                                                                  2580
tggctgcctt ggcctccaaa aatgctggga ttacaggcca ctctgcctgt aatcaaagat
                                                                  2640
ttaaatgtaa ctttcctgaa ggttttccgt cacagcagca tgaatccgtt aatcactgcc
                                                                  2700
                                                                  2760
aaagttttct tattttctct aacatacttt tgtgacccat ccaaataggt aggcctctca
                                                                  2820
tccaaqqttq atqattacqt tttatttgta taaaaagaca ggttcatttg cctgtagtct
                                                                  2880
acatqtacaa cattactgat gggaaaatag gatgctttgt taacctcttt tgttaaaata
                                                                  2940
gcaaaacatt aatgtatttt aacaggaaat ggttctagaa tggtatttta aagcagttta
ctgccaatca cagaaatgac tctagaatgg tattttaaaa cagtttactg ccaatcactg
                                                                  3000
aaatqactct agaatggtat tttaaaacag tttactgcta atcacagaga agtttttaca
                                                                  3060
gttctaaatg catttatttt aaatatatct aaaattatcc tcaaaaattat cttattcata
                                                                  3120
                                                                  3180
atttgctttt tcctgtgtcc tgtaaatagt aggactttaa aagtttagaa acaaggcttt
tattaaaggt ttagaaataa gacctttatt ccagttagat taatttttt gtcatctttg
                                                                  3240
ccattgtgta ttaaagaaat taggcctctt caatgggttt ttaatcttat tagtttttc
                                                                  3300
ctatttgaaa cttactttag ttgatttaat tttgatgatg gtttataaat accgcatttc
                                                                  3360
tgtatagaga attcacggtt ttcacctcat cccttttttt cagtatgtgc aacgtataga
                                                                  3420
gaaacagttt cttttgtatg cctactggat aggcttagga attttgtctt ctgttgggct
                                                                  3480
tggaacaggg ctgcacacct ttctgcttta tctggtaaga ataattttat tttaataagc
                                                                  3540
aaaaatgata tttcctatct ttttattggt gcttttatgt cagaagtaaa aattctaaga
                                                                  3600
tttgttttaa ttacctttgt gttttgtaag cattctgatc ctccaatcag tgctttaagt
                                                                  3660
ttgacttaga gttctgtttt gtttttcctt tagggttagt atttaaaaaag caaagagaaa
                                                                  3720
accccagtta agcaaataag gttgtttatt taaattagtt tagcgtggaa ggtttttctt
                                                                  3780
ttctttctag atttaattgc ttaagcaatt gttattttaa taaatgaagt ccatttaaat
                                                                  3840
atgcaaaatt ccatgtgaga aatgtcttcc cttacatcct ctaacatcat ttacatactt
                                                                  3900
                                                                  3960
ggatatttat tttggtattc ttgttgaatg taattgatgg agtattaaca tgtagaacta
                                                                  4020
aatgetttet tgagteettt gaaccaaagt ataaaaagtg ceeettetgg getgggegtg
                                                                  4080
gtggctcacg cctgtaatcc cagcactttg ggaggccaag gcgggcagat catgaggtct
                                                                  4140
qqaqatcqaq accatcctgg ctaacatggt gaaaccctgt ctctactaaa aatacaaaaa
                                                                  4200
attagccgga cgtggtggcg ggtgcctgta gtcccacata ctcaggatgc tgaggcagga
                                                                  4260
gaatggcctg aacccgggag gcggagcttc cagtgagtgg agatggcgcc actgcactcc
                                                                  4320
4380
tctgaaaaat attctttac tagtggaaat aagagagaat ggccaggtgc agtggctcac
                                                                  4440
acctgtaatc ccagcacttt gggaggccga ggcaggcgga tcacaaggtc aggagatcga
gaccatcctg gctaacatgg tgaaaccccg tctctactaa atatacaaaa aaaatcagcc
                                                                  4500
gagcttagtg gcaggcgcct gtagtcccag ctactcggga ggctgaggca ggagagtgat
                                                                  4560
gtgaacctgg gaggtggagc ttgcagtgag ccgagatcac gccactgcac tccaacctgg
                                                                  4620
                                                                  4678
gcgacagagc aagactccgt ctcaaaaaaa aaaaaagaaa aagaaaaaga aataagag
<210> 12774
<211> 280
<212> DNA
<213> Homo sapiens
<400> 12774
cccagcactt tgggaggccg aggcgggcgg atcacgaggt caggagatcg aggccatccc
                                                                    60
ggctaaaacg gtgaaacccc gtctctacta aaaatacaaa aaaattagcc gggcgtagtg
                                                                   120
                                                                   180
gcgggcgcct gtagtcccag ctacttggga ggctgaggca ggagaatggc gtgaacctgg
                                                                   240
gaggcggagc ttgcagtgag ccgagatccc gccactgcac tccagcctgg gcgacagagc
                                                                   280
gagactccgt ctcaaaaaaa aaaaaaaaa aaaaaatagg
<210> 12775
<211> 190
<212> DNA
<213> Homo sapiens
<400> 12775
atcactgggc gtagtggcgg gcgcctgtag tcccagctac ttgggaggct gaggcaggag
                                                                    60
aatggcgtga acccgggagg cggagcttgc agtgagccga gatcccgcca ctgcactcca
                                                                   120
180
                                                                   190
aaaaaagaaa
```

```
<210> 12776
<211> 2364
<212> DNA
<213> Homo sapiens
<400> 12776
                                                              60
ctcactcctg taatcccagc actttgggag gccgaggcgg gcggatcacg aggtcaggag
                                                             120
atcgagacca tcctggctaa cacggtgaaa ccccgtctct actaaaaata caaaaaaaa
attagccggg cgtggtagcg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga
                                                             180
                                                             240
gaatggcgtg aacctgggag gcggagcttg cagtgagccg agatcgcgcc actgcactcc
                                                             300
360
agtataagag aacatgagtg aatgcctgtc atctttttt ttttttcttc aaaaacaggg
                                                             420
tctcactttg tcacccaggc tgcagtgcag tggcgcaatc atggctcact gcaacctcta
                                                             480
gcacctgggc tcaagagctc aagaggtcct accaactcag cctcccaagg agctgggact
                                                             540
acaggtgcat gccaccacac cctaaggtaa atttttgtgt ttttatagag acaggtttta
                                                              600
ccatgttgcc caggctgttc tgaaactcct gggcttaagg gatcgaccca cctccatctc
ccaaggcact gggattatag gcatgagcca ccgcgcctgg cctatcatca tttattcatt
                                                             660
tattcatcta tgcaaaaata ttctttgagt gcctaattgc taagcaatgg gacaagcact
                                                             720
ggcaagtcac actggcaaaa tatcatcccg ccactcaagg agcttatagg tcagctgggg
                                                             780
agacaaagaa gaacatgggc ccttgtaatg agctaagtat ggtgctaggg gaaatatcca
                                                             840
taagttatgg gaacccagag gaattcattc atttattcgt ttagtaaata tttatgtgcc
                                                             900
960
agagtagtgt gggagacaga cattaatgaa atgctcttac agacctatca ttacctattg
                                                             1020
tcatatgagt tatgaaagaa aaataacagg ccgggcatga tggctcacgc ctgtaatccc
                                                             1080
agcactttgg gagaccaagg caggtggatc acttgaggtc aggagttcaa gaccagcctg
                                                             1140
1200
tggtggcagg cagctgtaat cccagctact cgggaggctg aggcaggaaa ctcgcttgaa
                                                             1260
cctgggaggc agaggttgca ctgagctgag attgcaccac tgcactccag cctgggtgac
                                                             1320
                                                             1380
gaaggaagga aatagagtgt aagagggggg cctagtgtag tctaagatga ctcaggagaa
                                                             1440
                                                             1500
gctgtttgag ctgatgcctg aagacgggtt gcatgtaagt agttgagtag gtaaaagaga
ggggtactat catatcaggg attcgggaga aaaaaaaaaga gagagagaga ggggaagagt
                                                             1560
gctgtggacc cattgagctc cagcccagct ccaactctgt gggtcaggaa agactttcca
                                                             1620
gcatctaagc tgagtccaga aggatgagta ggagtgagcc agctgaggag gagctggggt
                                                             1680
ggaaggaaag cattccagag cagcagatag cttgtgcaaa ggcacacagg cagctgggtg
                                                             1740
tggtggctca cacctgtaat cccagcactg tgggaggcca agatgggtgg accgtttgag
                                                             1800
cccaggaatt caagaccaac ctggatgaca tagtgaaacc ctgtctctac caaaaaaaa
                                                             1860
aaaaaaaaaa ttgaaaaaaa aaaagaagct gggcatggtg gcgtgcacct gtggtcccag
                                                             1920
ctacccagga aactgaggtg ggagggaagt cgaggctgta gtgaaccatg gtggcaccat
                                                             1980
2040
                                                             2100
ggaggcaaca gaacatagtg gattggaagg aaaaacaagt ggttcagacc aggtgcagtg
                                                             2160
gctcatgcct gtaatcccag cactttggga ggccgaggcg ggcagatcac gaggtcagga
                                                             2220
gatcaagacc atcctcgcta acacagtgaa accccgtctc tactaaaaaat acaaaaaaat
tagccaggcg tggtggtgcg tgcctgtagt cccagctact caagaggctg aggcaggaga
                                                             2280
atggcgtgaa cctgggaggc agagcttgca gtgagcggag atcatgccac tgcactccag
                                                             2340
                                                             2364
cctgggcgac agagcaagac tcca
<210> 12777
<211> 1716
<212> DNA
<213> Homo sapiens
<400> 12777
cctcatcccc ttttttcagt atgtgcaacg tatagagaaa cagtttcttt tgtatgccta
                                                               60
                                                              120
ctggataggc ttaggaattt tgtcttctgt tgggcttgga acagggctgc acacctttct
                                                              180
gctttatctg gtaagaataa ttttatttta ataagcaaaa atgatatttc ctatcttttt
attggtgctt ttatgtcaga agtaaaaatt ctaagatttg ttttaattac ctttgtgttt
                                                              240
300
```

```
360
ttcctttagg gttagtattt aaaaagcaaa gagaaaaccc cagttaagca aataaggttg
                                                                    420
480
qcaattqtta ttttaataaa tgaagtccat ttaaatatgc aaaattccat gtgagaaatg
                                                                    540
tottocotta catoctotaa catoatttao atacttggat atttattttg gtattottgt
tgaatgtaat tgatggagta ttaacatgta gaactaaacg ctttcttgag tcctttgaac
                                                                    600
caaagtataa aaagtgcccc ttctgggctg ggcgtggtgg ctcacgcctg taatcccagc
                                                                    660
actttgggag gccaaggcgg gcagatcatg aggtctggag atcgagacca tcctggctaa
                                                                    720
catggtgaaa ccctgtctct actaaaaata caaaaaatta gccggacgtg gtggcgggtg
                                                                    780
cctgtagtcc cacatactca ggatgctgag gcaggagaat ggcctgaacc cgggaggcgg
                                                                    840
agcttccagt gagtggagat ggcgccactg cactccagcc tgggcgacag agcaagactc
                                                                    900
                                                                    960
tgtctcaaaa aaaaaaaaa aaaaaaagtg ccccttctga aaaatattct tttactagtg
gaaataagag agaatggcca ggcgcagtgg ctcacacctg taatcccagc actttgggag
                                                                   1020
                                                                   1080
gccgaggcag gcggatcaca aggtcaggag atcgagacca tcctggctaa catggtgaaa
                                                                   1140
ccccgtctct actaaatata caaaaaaaat cagccgagct tagtggcggg cgcctgtagt
                                                                   1200
cccagctact tgggaggctg aggcaggaga atggcgtgaa cccggggaggc ggagcttgca
                                                                   1260
gtgagccgag atttgcgcca ctgcacacca gcctgggcga cagagcaaga ctccgtctga
                                                                   1320
aaaaaaagaa agaaagaaaa ggggctgatg gccgtgcacc cacagaaggc cctggctcct
                                                                   1380
ggccctccca gcccttctac ctgaaacctg acaataggta caacagaaaa acttggatta
gagaatcaat atgtcatgga ggctcatccc cttttccttt atctccatgc atttgctcat
                                                                   1440
                                                                   1500
aatctattct ttttctttct ttctttcttt tttttagaga caaggtctca ctatgttgcc
caggctggtc tcgaactcct gaactaaagc aatttccttc ccctccactc agcccctttt
                                                                   1560
ccttctgatg agtttccaaa ttatgtattc cctgctcaag aatagcagac aggctcatgc
                                                                   1620
ctgtaatccc agcattttgg gaggccaaag tgggcgggtc acctgaggtc aggagttcaa
                                                                   1680
                                                                   1716
gaccagcctg accaccatgg tgaaacctcg tctcta
<210> 12778
<211> 640
<212> DNA
<213> Homo sapiens
<400> 12778
gggatgaaaa aggacaaata tgacagaaat tttagaagta caatcaagag tgtggtacgt
                                                                     60
tattatggag gaagaaggaa tgaaagataa ctcttggatt tccttttgtt ttgttttaat
                                                                     120
atattttatg tgtatttaag gtatataaca tgatgttata agatataaat atatatagta
                                                                     180
aaatggttac tattgtggaa aaaattaaca tattctttat ctcatgtagt tacccatttt
                                                                     240
tacgttttta ctcctcatgg caagaacagc tataatttac tagtttagca aaaactctga
                                                                     300
atacaacaca ttgttattaa ctatagtcct catagtgtat gtagagtaca ttggatcttt
                                                                     360
                                                                     420
tgacttgttc tgcctgtata tttgctactt tgtatccttt gatctacatc tcctcccatc
                                                                     480
tctatctcta taaatgagat cttgcaacat ttttctgtgt agttactggt tttttactga
                                                                     540
gtgactgggt agattttgat gccattaact gtatagaaaa cagttatttg ttcacttgtt
                                                                     600
cacatttatt acatattatg tgaaagtatg tgaaaagaga aatttaaagg tatactgtaa
                                                                     640
ttatgctgca agttaaatga gatcctcact ttatccaggt
<210> 12779
<211> 11821
<212> DNA
<213> Homo sapiens
<400> 12779
aaggccaggc acggtggctc acgcctgtaa tcccagcact tagggaggcc gaggtgggcg
                                                                      60
gatcacgagg tcaggagatc gagaccatcc tggctaacac ggtgaaaccc cgtctgtact
                                                                     120
aaaaaataca aaaaattagc caggcgtggt ggcgggcgct tgtagtccca gatacttggg
                                                                     180
                                                                     240
aggctaaggc aggagaatgg catgaaccca ggaggcggag cttgcagtga gccgagatcg
                                                                     300
cgccactgca ctccagcctg ggcgacagag cgagactcca tctcaaaaaa aaataaataa
taataataat aataataaac agcttttaca aattaggaag tctaacttta ctgacttcat
                                                                     360
                                                                     420
accettgtga agattattte aaateeaggt geetetttaa tagttatgta aaggaaatga
                                                                     480
gctgatccca tataatacca tagaagtgat gaaaggacaa ataacagtat gaaatacatc
atgctcttca gaagaaaggc cctatgtaaa ctaaaatgta ttatgagatg cctttcacag
                                                                     540
gttaaagaac acaaaatcac tttagtatct tctggttaga aagactccaa gattagcaag
                                                                     600
```

caagagacag	gaacttaaag	aactgtagtt	tgacaagttt	ttgcttggct	agtgctgaaa	660
	aattctgtac					720
agatatccat	cctatatgcc	aattctccaa	cgggcaattg	agctctggta	ccatgatcca	780
gcctgtacta	cacctgtact	caagttgatg	gctgaattgg	ttcataatag	gtaagcagga	840
ggcagagctt	gcaagggcac	atctgccctg	ttatctgaga	gaatttgctg	tatctagtgc	900
tttgggcaga	ttgtgggaaa	taataagatt	cactactgca	ttttaaaatt	cgaaaagttt	960
ttatatttt	gtttgtgtga	aagaatagta	ttcctaacta	cacaaaacca	tagtcaactg	1020
caggaaataa	gtcacttttt	ttggtttgtt	tgtcttgttt	tttttgaggc	ggtgtcttgc	1080
tatctcccaa	gctggagtgc	agtggcacag	tctcggctca	ctgcaagctc	catccccctg	1140
	attcccctgc					1200
	cgattttttg					1260
	ctcctgacct					1320
	ccactgcgcc					1380
	atgcctgtaa					1440
atggtggttt	tctagatcag	cctagacaac	atoutuaaac	ccacctctac	aaaaaattag	1500
atgragiage	tggcacacaa	ctctgggcaac	accognicac	gaggtgagg	taggaagatt	1560
cigggcatgg	gggaggcaga	ccgcagcccc	agccaeccag	atoccattac	actccacct	1620
getttageet	gggaggcaga	ggttgcagtg	agccaagacc	angecateae	cacatotota	1680
gggtgacaga	gcaagaccct	gtettaaaaa	aytaaaataa	aaayaacccc	cagacgccca	1740
ctcttaggag	aagtaaattt	ggcaaccaag	accongacco	ttagagagat	tananagaaat	1800
taacatctgg	taatggtgcc	ttgtccatca	callicateg	ctayayacac	ttataaagaa	1860
atgatagata	ttagaatacc	ctttcttaag	aaaggtattt	accagagagg	Liginggeagg	1920
atcaataaaa	atttactttt	aaaaagtgag	caagattttc	aaaacaattt	aaggacagtg	1920
aaaaagaaaa	gtctagcacc	ttagctttcc	tagaatttca	ggtatgggca	etggtetete	
atggcggtcc	tgagagaatt	agtaaggttt	tttttctta	tttttattt	atttatttat	2040
ttagttagtt	atgtttgatc	cggagtttct	ctcttgtcgc	caggctgaag	tacagtggcg	2100
cagtcttggc	tcactgcaac	ttaacgcctc	ctgggttcaa	gcgattctcc	tgcctcagcc	2160
tcccacatag	ctgggattac	agacatgcgc	caccacgccc	ggctaatttt	ctatttttag	2220
tagagacggg	gtttctccgt	gttggtcatg	ctggtcttga	actcccgact	tgaggtgatc	2280
	agcctcccag					2340
attaataagt	tttaaaacaa	ccttatggag	tgggtaatat	ttaaagaggc	tataacctcc	2400
	atattcaaga					2460
tttgccaaac	tttcctagcc	actatgccag	acaaaatctc	taccctcttt	gatgttacaa	2520
atggtgggga	agacacacaa	taaaaacaag	tatggaagat	ctttccagtg	attaagtgcc	2580
atgaaacaaa	ataaaacaag	gcagtaaaat	agaggggaat	tgaaggacag	gagggtcagg	2640
gaagacctct	cagagaaggt	aatattaact	aggatctaaa	tgacaagaaa	gattctggta	2700
gccctgcaaa	gataaggagt	cttctaaaca	gaaaacatct	gcacgagtcc	tgagatagga	2760
caggcttgct	gggacttgtg	gcaggagcct	ggttggtggg	gggaggctgt	gggagcaggt	2820
cagaccagtg	agcagagcca	gatcatctag	tgccttcgca	cagcagtagt	gaggagtggg	2880
catttattct	cattgctgtg	ggaagccgct	agagtgtttt	cagcaaagga	ttaaaatgat	2940
ctcatttaag	ttttttaaag	gctaccatgt	gaagaatggg	actaaaggca	ggtaagagta	3000
gaagcagaga	gaatgtaagg	gaaaggtgga	tttggggttt	attttagagt	tagatgttga	3060
tggattcagt	gtggtgggg	ggaggaagga	ggaaggactc	ctgggctttt	gaggtcttac	3120
caacttgaat	ctaataaagc	tcatcaaaat	gtggagcaga	caaaagagtc	aggaacttaa	3180
aaccaagatg	gttacaaatg	gccttctctg	tctggcttct	tttggaccat	tccaagtccc	3240
tatgcatctt	ttcttcatat	aaaatggtaa	caatgctttg	gcccctctcc	ctcagttgcc	3300
actgaagcca	taaaggtcca	tgccaactaa	tggctgaagg	gctctgcatt	agtatcaaga	3360
ggcgacgggt	agaaagtata	ctttaatcaa	ggccgggcac	ggtggctcac	gcctgtaatc	3420
ccagcacttt	gggaggctga	ggcgggcgga	tcacgaggtc	aggagatcga	gaccatcctg	3480
gctaacatgg	tgaaatccca	tctccactaa	aaatacaaaa	aattagctgg	gcgtggtggc	3540
gggcacctgt	agtcccagct	acttgggagg	ctgaagcagg	agaatggtgt	gaacccgaga	3600
ggcagaggt.t.	gcagtgagcc	gaaattgcgc	caccgcactc	tagcctgggc	gacagagtaa	3660
gactccatct	caaaaaaaag	aaaqtatact	ttaatcaaat	aaaattgaga	attttcaaat	3720
agtaatttta	tctactgctg	ctttttttt	cttataaatq	tttttaattt	gagcagcaga	3780
atctgaatct	agcatgttgg	tcttcaatat	agaagctact	tcatggttaa	atatctataa	3840
cttaattatt	ctcatattag	gatagggaat	tgcttacctt	aatgtaaatg	caggatcacc	3900
caardtactc	agatgagagc	ctcaagtacc	ccaqtcttcc	aagaaaacac	ctctgacttt	3960
ttataataat	gtgctctctg	ctcaggtccc	agcgactcca	gtttgatgtc	tcttccccca	4020
atggcatctt	actcttccga	gaaaccagca	agatgataac	aatgtatggt	aagtgcttca	4080
rataatrato	cctctagaag	ttaattccag	ctcagtcacc	acactgtaag	cagcatgtgg	4140
atctctaacc	agtcctggca	adadccadda	cagcattcgt	attgtatgct	aatacatgtg	4200
cattagagto	ccacctgtca	ccagagaacat	actggaattt	gtatqccttt	ggagtaggaa	4260
Jaccagageg	2000009000					

ggctgatcta aacgagcgct tctaatgtgg ttgaataaac atatatgaca tgtctactca 4320 ggcaatcgca tcctgacact aggagaggtc ccaaaggatc aggtctatgc tctgaagctc 4380 4440 aagggcatct ccatctgctt ctccatgctg aaggctgctc tcagtgggag ttacgtcaat 4500 ttcggagtct ttcgtctcta tggagacgat gccctggaca atgctctgca gaccttcatc 4560 aagctgctcc tctctattcc tcacagtgat ctcttggtaa gccttacgct gcattgccac 4620 aatcttgttc ctcatcacat tcagcctttt tcacctgaga ccaagattga acactgctct 4680 tgagaaacta tgtaagctag ctccttttgc tctaactaag tcttctgttt tcccacctaa 4740 aaggagctaa gctatttaag atcgtctccc tgcatgctgg agtgcatagt gcctaagctg 4800 attttcttcc tcttcctctc ccacaggatt accccaagct cagccagtct tattattcac 4860 tactggaagt cctgacccag gaccatatga actttattgc aagcctggaa cctcacgtca tcatgtatat tctctcttcc atttctgaag gacttactgc acttggtaag cacctgaggt 4920 gggtgggtga gttggtgggt ttgtttttta ccacttaact aaacagaaag agagaatctt 4980 5040 gccccagtgt ccaaaaagat caccactgcc ttgggggttt ggccataaca atagagtata taatgcacag cacatgctta tccagcacac actcactgat tcccttccta agtacaaggc 5100 cctgtggaag cactgaggat acggtaatta acagcatata gtccctgtcc ttaaggggct 5160 tatctggtgg gtagaacaga cacatgaaca aacaactgcc tgtttaccat acttaccact 5220 taaacattac aataggggtg agtacaaagt gctacacaag ccctcaagaa tacctagact 5280 5340 cttggttgtg aggaagtcag gatcaaggaa gactggctgg aagacttggc atcaaagcat 5400 aaacctaaaa gctggacaga tgttaccctg gttagccagg gagggttcct agcagcagag 5460 acagcaagca cttgcacctg taggcaagaa agaaccagga aatccagatg gctggcacac 5520 tagtccagag gagttaggaa tgaaatgaag ctttagagat aagcaggagc aaatctggag atcatgaagg gggcccgcct gtaagccgta ttaggctgtt tgaattctgt cctgagggcc 5580 5640 gtggaagctg gggaaaggtt tcatgcagct agctccataa gttttttcat cctagtccat atggtttctg tcaaccattt tgtttctagg ctaccttcca acaatttttt tttttttt 5700 5760 tttgagacgg agtcgctctg tcgcccaggc tggagtgcag tggcgcgatc tcagctcact 5820 gcaacctctg cctcccgggt tcatgccatt cttctgcctc agcctcccaa gtagctggga 5880 ctataggcgc ccgccaccat gcctggctaa tttttttgta tttttagtag agacggagtt 5940 tcactgtgtt agccaggata gtctcaatct cctgacctca tgatccgcct ggcttggcct 6000 cccaaaatac tgggattaca ggcatgagcc accgtgcctg gcccaacaat cttagtaggt 6060 atatgtgttc agagaataaa acacattttt atattaggct gagcaaaaca taagtaggag 6120 gattaagtca actgccaaat agtgatgata tgttgcaaat acacttttgg attgtcaact gtggtgaatt atccatgcct ctgtgcgact ttgatacaca tttacttcta tcagtctatc 6180 6240 agggtgcata gccgtatcta gtacagtcca atcaaggtat cagcccttgc tttggaagac ttttttatgt cttattgaaa atacagggac ctggccgggc gtggtggctc atcccagcac 6300 6360 tttgggaggc tgaggcgggc agatcacaag gtcaggagct cgagaccagc ctggccaata 6420 tggcaaaacc ctgtctctgt acaaaaatta gctcggcgtg gtggtgtgtg cctgtagtcc 6480 cagctactct ggaggctgag gcagaagaat cacttgaacc cgggaagtag aagctgtggt 6540 gagccgagat cgtgccactt ctgcactcca gcccgggcga cagaacgaga ctccgtatca 6600 aaaaaaaaaa aaagaaagaa aaagcaagta gagggacgtt tgcataaact atcagtcccg taggaatcag agacttgttt actcttttaa gggttcagcc cctttgtcct ttggccttac 6660 6720 ctcatcagag ttctgtccac aggttgtgct gtactgttcc ctttgtaaag acgcatagat gagtctgcag ctcccccag agatgctttg gagataaaca gataatacag cataccgtgt 6780 6840 tctaacaaac cataaacatt caggggctac gtcattctgg gtttaattac atcccactgg taactcagag cataggctca taccccaggc ttcttggatt ctaatcacag ctcctgcaat 6900 tactagcagt tgatccttag gccgatacat aacctctcct aattctggtt tcctcatttg 6960 7020 taaaacagaa aacctaattc ctgagttctt gagaggataa attagagata acacctataa agtacttagc acaacatctg gcacaaaaga agcacttgct gaatcaaact atttgttatt 7080 7140 ttgtgtgagg cagaagatgt acgtacatcc acaacacatt gagccgataa tttcagtatt ctttattacc acatactcac tttcaaactt agaaattgag ccctactgta caatgaggtt 7200 aagaggttaa caggagtcat cttgagcaac cgccttggtt gaattggcca cggtacccta 7260 7320 atggatetea eccaaagata gtecatattt gtecaggeea ecateageag etetgteeta cccctgcctt tctttcttgc agacaccatg gtatgcacag gctgctgctc ctgcctggac 7380 cacattgtga catacctctt caagcagctg tcacgtagca ccaagaagag gaccacaccc 7440 7500 ctgaaccagg agagcgaccg ctttctgcac atcatgcagc agcatccaga gatgatccag 7560 caggtaagaa agtggaggct taggaggcag tgatggggtg tccgacagag gaaggacctc tgcaagacag gggagcccac acacgattaa catgacatct catcaggttc ctgctgca 7620 7680 gatgaagtcc gtgtcttaaa gttgcagtgg attttgagtt tgccaagtaa tcactggatg tagaaaacgc tcaggttctg gattattctt ctgagtgtca cagtgatccc tatgccctgg 7740 acctgtctca tgatcactat cctctttctg tgaaaattac tttgctcacc cactgctata 7800 aatagagcag gagttagcag catccagctt tctaaaggct tgtgttcctg tttacaaaac 7860 aggaagaaga atgcaagaca gaaggaaata actggccaca gagagatcaa accatatgct 7920 tgcccttatt ttatttgtat gtgccttgaa gtaacttaca gaaatacatg ctagatgaaa 7980 atagataagg aaatgggatc agtaattatt gagattttag ccagtcttac ctttgtccac 8040 8100 accettctct aaagaagcag tgaaataatt caggactcca ttacattcac aagatgtcat 8160 aaagetgtca acteegagta eetggaaggg ateatgeaag gtggttttge ttaetgtaat 8220 tttgtttacg tgaccccatc ccattcccca caactcaggg tgacctggaa agatccattg gtaagtgaag ttcaaaccaa ttttaagaac aagaaaggaa atgaatatct tagaagaaaa 8280 ggtaaccttg aaatagaaga ctcagatgaa gcttcacaaa ctatttgtct gatttaccct 8340 8400 atacagaaaa ggccttcagc ctaatatact cctgtatttg gaatctgtcg ttttatcttg 8460 ggtagcaata cattaggtca ctgcctgaaa ttctccattc cattttcaga tgctgtccac 8520 ggtgctgaac atcatcatct ttgaagactg taggaaccag tggtctatgt cccgaccact acttggcttg atattgctta atgaaaaggt gagagagcca gctccctggt gccaacccag 8580 8640 aagcagtggc aaccacgcac ttggtatcac caagccctgg gagaaatgtg tatagaaaca 8700 ccccacggtg gtgaaacagg gaaaatgggt catttactga gcaagtccca tttgtgcttt cagtatcaca taatcattta actgttagaa gtcagcatgt gtggtagctc acagacacag 8760 gataaaggag tgtttcccct aggcagtaag agaaaccttt caaggaaata atgtacctgg 8820 gtatcagagg acctaagacc taagttctag ttctagctct gctataaaca agtcttgaga 8880 ttctggtaaa agaaaggtct ggataagatg acccttttaa agtgctttac aatttaaaaa 8940 ttcttgatat tcttagtagg atgaagccat attatcccac aagtgcttgc ctgaatttct 9000 tttttaaggg tccaatttta gtagacattc cattcctcct tagagaagaa cattcttcaa 9060 ccctgcagat gacggagggc taatctgcct tcccctgctt ctctaacctt ctgttccact 9120 ccttgcccca cagtattttt ctgacctaag aaacagtatt gtgaacagcc agccaccgga 9180 9240 gaagcagcag gccatgcacc tgtgttttga gaacctgatg gaaggcatcg agcgaaatct 9300 tcttacgaaa aacagagaca ggtgagtata aagcgtcctg cctagaaatc tcagacaatt 9360 gctatttttc aaatcaacga aacaggcagt tgctttaaag tctttgacat ctgtgtttgg 9420 aggccatcta aagcaatgca atgcaataga aaagtgagcc atgttaaaca ggcaaaattc 9480 attttaataa tatattttat ttaacccatt gtatctaaaa tattgtatca gtgtgtaatc 9540 agtattttaa aattgtgggt tttcacattc tttttgtact acatttccaa aatcctgtgt 9600 actttacatt taacagcata tctcagttca tacgttttca tcagaaatac ttgatctgta 9660 tttagatttc ataaatttac agttgacaaa gtagattcct gtaataccca gattgtttca 9720 aacacaccta gggactttcc agtaactgca ttgagtatct gggctttgca attaactttt 9780 aaattttatt taattttaat taatttaaaa caaggcattt taatttaaaa ttaagatgca 9840 gttggggagc tgaatgttaa attgtattta atttggattc atgttctcag tcacactggc 9900 cataattcag gggcacggta gccatatgtg gttagcagcc gccctattgg acagcatagc 9960 actgcaccac ctggtcttgc tgcattaaga aatgagatgg cttcattggc ttactgccct cacgtgtgag ggcaacttcc tacttctgtc agtgagattt cttttgtgct gccatgagcc 10020 caaggtagcc ctcagggccc cagatttgac cagatctcta agccaacttt tctcttagag 10080 10140 tcttaagact gaaattaact gatctttgaa acagaaccca tcaattcata cattctactt cccatgcttt aaaaaaaaaa aaaaaaaagg caaatacctt tcccccccac tctcctcccc 10200 caacccacat gcatcctctc tgcaggttca cccagaacct gtcagcattc cgtcgagaag 10260 10320 tcaacgactc aatgaagaat tccacttatg gcgtgaatag caatgacatg atgagctgac 10380 acctccttgg actctacctg tacagagcag cgtccctttg gtttggccca gaggggcgaa 10440 caattgcaag ggagagggcc tggctgatcc tggctctttt ctccaggggt gtggggaaaa 10500 tggcaaaggt caactagctg cttccccagg gaataggggt gtgagtacac tcactagggg gcagggcgct gctggttcct gggggactgg gtgggaaggg tggtgggagg agataagaga 10560 tacaaactga gactccagcc tctcctcctg gggccaccca agtggggaga acccctagtg 10620 tcctgccaca acctgccttg tataaacatg tacatttttt cataacattt tgaacaaggt 10680 ttatattgac tcaagtttaa aaacaaaaag tgtgactgaa aaatttttac agagtctagt 10740 gcaccaatgc tgatgtgagg ggttgtgtat gcgagtgaag aaaatgtgta ttctggtggc 10800 ctgaagcttt actggacaag gatgtgtgag agtgcagaga tatatttagt gacacagtag 10860 agaggcaaaa aaaaagctaa aattccaaat gtatattttt tcgtattgcc ctgtcctcac 10920 ccagaaatga tcaattcctg ttactgtatt aacccttgtt attaggaact ctaagccatg 10980 ccagaacacc gtccctcccc ttggaccgtg tagattctgc cctgggtccc tagccccttg 11040 cagtgataaa taactccagc taaaagtgtt tggtgttctt atctccaccc tctttcctac 11100 tttgcttacc ctcatcctca gacagatgcc tcttgctttt aaaagttgga tttaacgacg 11160 tgttgtaggg ttcttggtct gtgtgaaggc agagaccaga gagaaggaag tgagcccact 11220 gctctcctgg gagcaatgtg ggtgagtcca ccagaggccc tgctgtgtgt ggccaataaa 11280 ttttagtctt ccccagccct cgaggcagtg tgtgtggatg tatgcgtgtg gatatttata 11340 tatgtaccct gcactcatga atgtatgaac tggaggaagt tactacagtg gaagggttct 11400 taataacaag gtctacctag catgaagtat ttaacattct cccatccctt aaaaaatata 11460 catttttata aaatgaaaac cataataaat gttttgaata ttaaaaaaaa taataaccta 11520 cagaggaaaa ttaatggaga cagctatttg ccttgtactt tttccacaat tgttgctgct 11580

```
agttgtacac atctctagtt cagctcttgc ccacgggaca ctcatcaatt aggttttatt 11640
tttatttctt tcctctaccc ccagaaacaa gcctgttaat tttttttcct tctcctctgg 11700
cgactgtgtg atgaatcctt tcttgcgtga tcaggttgcg gatagacttg taagggtgtt 11760
tgctgcatac agtgtaagca ttgtgaccgc caataaactt caatggtttc tactgacctg 11820
                                                                    11821
<210> 12780
<211> 1542
<212> DNA
<213> Homo sapiens
<400> 12780
                                                                       60
ctaagaattt ggctgccaga ccccaggcct ggctgctgct gtgtggagag ggaggcggcc
                                                                      120
cgcagcagaa cagccaccgc acttcctcct cagcttcctc tggtgcggcc ctgccctctc
ttctctggac ccttttacaa ctgaacgcat ctgggcttcg tggtttcctg ttttcagcga
                                                                      180
                                                                      240
aatttactct gagctcccag ttccatcttc atccatggcc acaggccctg cctacaacgc
                                                                      300
actagggacg tecetecetg etgetgetgg ggaggggcag getgetggag eegecetetg
                                                                      360
agttgcccgg gatggtagtg cctctgatgc cagccctggt ggctgtgggc tggggtgcat
gggagagctg ggtgcgagaa catggcgcct ccagggggcg ggaggagcac taggggctgg
                                                                      420
                                                                      480
ggcaggaggc tcctggagcg ctggattcgt ggcacagtct gaggccctga gagggaaatc
                                                                      540
catgctttta agaactaatt cattgttagg agatcaatca ggaattaggg gccatcttac
                                                                      600
ctatctcctg acattcacag tttaatagag acttcctgcc tttattccct cccagggaga
ggctgaagga atggaattga aagcaccatt tggagggttt tgctgacaca gcggggactg
                                                                      660
                                                                      720
ctcagcactc cctaaaaaca caccatggag gccactggtg actgctggtg ggcaggctgg
                                                                      780
ccctgcctgg gggagtccgt ggcgatgggc gctggggtgg aggtgcagga gccccaggac
                                                                      840
ctgcttttca aaagacttct gcctgaccag agctcccact acatgcagtg gcccagggca
gaggggctga tacatggcct ttttcagggg gtgctcctcg cggggtggac ttgggagtgt
                                                                      900
gcagtgggac agggggctgc aggggtcctg ccaccaccga gcaccaactt ggcccctggg
                                                                      960
gtcctgcctc atgaatgagg ccttccccag ggctggcctg actgtgctgg gggctgggtt
                                                                     1020
                                                                     1080
aacgttttct cagggaacca caatgcacga aagaggaact ggggttgcta accaggatgc
tgggaacaaa ggcctcttga agcccagcca cagcccagct gagcatgagg cccagcccat
                                                                     1140
agacggcaca ggccacctgg cccattccct gggcattccc tgctttgcat tgctgcttct
                                                                     1200
cttcacccca tggaggctat gtcaccctaa ctatcctgga atgtgttgag agggattctg
                                                                     1260
aatgatcaat atagcttggt gagacagtgc cgagatagat agccatgtct gccttgggca
                                                                     1320
                                                                     1380
cgggagaggg aagtggcagc atgcatgctg tttcttggcc ttttctgtta gaatacttgg
tgctttccaa cacactttca catgtgttgt aacttgtttg atccacccc ttccctgaaa
                                                                     1440
atcctgggag gttttattgc tgccatttaa cacagagggc aatagaggtt ctgaaaggtc
                                                                     1500
                                                                     1542
tgtgtcttgt caaaacaagt aaacggtgga actacgacta aa
<210> 12781
<211> 5920
<212> DNA
<213> Homo sapiens
<400> 12781
cagacatcac ggctgcagcc ctggctacgg gtgcctgcat cgtaggaatc ctctgcctcc
                                                                       60
ccctcatcct gctcctggtc tacaagcaaa ggcaggcagc ctccaaccgc cgtgagtatt
                                                                      120
cctccctgcc tggggtgggt ggacggtgcg agtgacctgc tccagccccc agttcagccc
                                                                      180
ctgggattcg caaaggcacg atgcaggcac aattcctttt catttgagag ttgggagcag
                                                                      240
ctgcacttcc cgccaggagc tgggcgaaat ggccgagaga aaggaggcat gccatttccg
                                                                      300
ggggccaagt gcccaccagc ccctttggct cccaggcagt gctggctcgg cactcaatac
                                                                      360
atgtcttctg aatgaatgat catatgcagt agctcaagtt gctttataaa agcaagttgc
                                                                      420
tgccactcag agatccttgg gggacctgtt taaggtatgg gcgtgcttgt tttgtaatta
                                                                      480
gtagcaattg ttgggacaaa aaatgatctt tggaatatca gaagtggaag gggtcttaca
                                                                      540
gacaacttag ctcaaccctt tctttttcca gatgagaagg ctaagatcag tggggttaca
                                                                      600
taactgactg aatgttacgt aacttagtaa gtggcagagc taggactcaa tctcagagct
                                                                      660
                                                                      720
ttcaacgcat gctctttccg ggaatagaag tccaccatat aataaaaatg ctctcactta
ctcctcattg caagtccaag aatttggtcc taccattgtc cccattttac tgatgggcaa
                                                                      780
acggaggcac agaggggtta agtaacttgc ctaaggaacc acacagcaaa taagtggtgg
                                                                      840
```

ggctgggctt	taagtcatgg	gcacaaacat	ctttcacctc	ccaccctggc	caggtgacag	900
tgccccttgc	ctagttcctg	accctgccct	tgagtcttgg	ttagtctgag	tcctccaaga	960
aggggctagg	gagtttttta	cccttgcctc	ccctccctgg	cctcttcccg	tctgcctggc	1020
tacagaggta	actgagaaag	gattgctctg	gtgccaggtg	gcttttggct	cgcaacttat	1080
ttcctgtggc	cggcccttaa	caacttgtca	tccctccctc	ccctcattcc	cgggggcccc	1140
cacgtgaagc	cccatagtgg	gtcactcggg	ggctgtggcc	acctcaccct	tgctttcaga	1200
actcccctat	tcctctccta	gaacacacca	caacctacct	gcaggaatac	ccatggctgg	1260
gggtgggtgg	gggcaggtaa	agggcttgga	acagaagagc	aacgctgggc	agcagggcag	1320
ggggagcagg	tgttgctgtg	ccctccctgg	tggaaggctg	gcccagagag	cctgctcagg	1380
aatgaggcac	tctcaggaaa	aaaagaaaag	gaaagggctg	ggagccttga	ggacggcagt	1440
	ggccaacagg					1500
ccagctctaa	aatgggacca	acaaccctca	ccccaaaggg	tggcacagag	gatgagatga	1560
gggaataccc	gtgtgcacct	gcacgaagcc	tgacccatga	gtcggctgta	agcaatagcc	1620
atggtttgaa	tagatttcag	gaacttttgg	gtaacttccc	tgtgtttgtt	ctgttgttgt	1680
gcccctcccc	caccatctgt	ttccccatcg	taatcagcag	taaatctcct	taaaacgaga	1740
agcatctgtg	ggaggacatg	gggtgctgca	tgaaagaggg	aagttggggt	cactgcatct	1800
aattggtggc	cagtttgggg	ggtggggtgt	cccaaggctg	aggcaagcgg	cagcaacttg	1860
gatgagaagc	agaaagtgag	tgaagtggct	gggaagtgat	cggggacttg	caccttgtaa	1920
ggtttccctg	agagatgtcc	cctagaatgc	caccctatta	ggcaatgtag	gggataggac	1980
agagaggacc	aggagccctc	taattaggaa	ctgaccttaa	acactcccac	ccagtaagtc	2040
atggctaaag	accagaacct	ggcaaatgtt	caaacaagag	acaccagtta	gcaaattcaa	2100
gagttgacct	ttgctcgata	cttaaatcct	gaaggtctga	cactgtgtaa	gtcaagccat	2160
aggagaaagc	gctggctgcc	tttggtctcc	tgatggcaga	tagcgttctt	acactcctgg	2220
aaaatgcaga	tagagtttca	tttatcagtc	gtcaaaatgg	gcccctcatg	gaggccccat	2280
ctgctggaca	gacacgcaga	tcgcttgctg	gacagcaccc	atgtgaaaag	aaatggagtc	2340
cggagctgtg	cagggccctc	ctgggctcgc	tcctgttccc	tgcagggcat	ctgccagcag	2400
gggcagggat	gttgtatggg	gaagccttcc	cttccatgac	cagcttctct	gtctgtctgt	2460
ccctaggtgc	ccaggagctg	gtgcggatgg	acaggtaagg	cccatggaga	ccttcttgag	2520
aaaacttcct	gggccggcta	tccaggaaga	gatacttctg	tgcagtaggg	gccctgttta	2580
gctgcctaga	gcagctggtc	agaagagcct	ctgccatctg	ctgctgaagc	ctgcacatct	2640 2700
gtgcagattg	gctgttctcc	tgccaccccg	actcagcagg	ctgagctctg	attetgetea	2760
gatgtgtcat	gcacccacct	tcgggtctca	gtggtcagcc	tgggccagga	tggggacagg	2820
gaggaagcac	tgtctggggc	agacagtgag	acatgcaaag	gaggccagcg	ggeeeageee	2880
cagccacagc	ccttgagctg	tgcctcctgc	ccgcagagaa	ctccaaggag	ataggggggg	2940
ggccgctgca	ggccacaagg	gcagaggctg	aggggtccca	gagtygtyca	acctaccata	3000
tctaggggca	gaggggatgg	ggactgtgta	reggegegee	trangagata	agetgecatg	3060
cagcctggcc	tggagggtgt	gttcagggaa	gggatgatgt	tgccccggta	ttgaagaag	3120
caaacacaaa	gctcctctag	gigiligada	gygacgaccc	tetteagaeagg	ttatcccact	3180
teetgettge	aactcatcta	gaatttaaga	gttgcagggg	gacagggttt	aggastattc	3240
cccaactggg	aagagaagag ccatcaactc	tattgagga	agagaaactt	gacaggetet	tcctgaggct	3300
gateetaatg	aagtgtctgt	gatttttggc	ttcctaacta	taccaggat	tgatggtcag	3360
gaagttetag	aagtgtctgt	tctattctaa	tagacctaa	taccctcaac	tcaggacagg	3420
tagacagaga	cacccatag	cctttactct	ataaacctaa	ctcctacctt	cttgcttgga	3480
catactacta	aggettagg	atagggatat	aggtgagaga	aagggaggag	agaaaaactg	3540
addacadaga	gggcagagtt	cacactccaa	acagcacaga	tgaccttcca	ttctggttct	3600
gtggcaggga	cattcaaggg	attgaaaacc	ccggctttga	agcctcacca	cctgcccagg	3660
ggatacccga	ggccaaagtc	aggcaccccc	tgtcctatgt	ggcccagcgg	cagccttctg	3720
agtetaggea	gcatctgctt	tcggagccca	gcaccccct	gtctcctcca	ggccccggag	3780
acgtettett	cccatccctq	ggtaagtgtt	tcctgacctt	cacagcacga	tgacctgtaa	3840
ggtcatgacc	tcatggcctg	cagggcatcg	gcctcactcc	ctgccctccc	tgaagagttc	3900
cacggcctca	cagagtaga	ttgagggtga	gggacagagg	ggcccccatt	cacctccctg	3960
aagagttcca	caacctcaca	gggtggggtt	gagggtgagg	gacagagggg	ccccattca	4020
cctccctgaa	gagttccacg	gcctcacggg	gtggggttga	gggtgaggga	cagaggggcc	4080
cccattcacc	tccctgaaga	gttccacggc	ctcacggggt	ggggttgagg	gtgaggggca	4140
gaggggcccc	gttcactttg	cttctccttt	tcttgcagac	cctgtccctg	actctccaaa	4200
ctttgaggtc	atctagccca	gctgggggac	agtgggctgt	tgtggctggg	tctggggcag	4260
gtgcatttga	gccagggctg	gctctgtgag	tggcctcctt	ggcctcggcc	ctggttccct	4320
ccctcctgct	ctgggctcag	atactgtgac	atcccagaag	cccagcccct	caacccctct	4380
ggatgctaca	tggggatgct	ggacggctca	gcccctgttc	caaggatttt	ggggtgctga	4440
gattctcccc	tagagacctg	aaattcacca	gctacagatg	ccaaatgact	tacatcttaa	4500

```
4560
gaagteteag aaegteeage cetteageag etetegttet gagaeatgag eettgggatg
                                                                     4620
tggcagcatc agtgggacaa gatggacact gggccaccct cccaggcacc agacacaggg
                                                                     4680
cacggtggag agacttetee ecegtggeeg cettggetee ecegttttge eegaggetge
                                                                     4740
tettetgtea gaetteetet ttgtaceaea gtggetetgg ggeeaggeet geetgeeeae
                                                                     4800
tggccatcgc caccttcccc agctgcctcc taccagcagt ttctctgaag atctgtcaac
                                                                     4860
aggttaagtc aatctggggc ttccactgcc tgcattccag tccccagagc ttggtggtcc
cgaaacggga agtacatatt ggggcatggt ggcctccgtg agcaaatggt gtcttgggca
                                                                     4920
atctgaggcc aggacagatg ttgccccacc cactggagat ggtgctgagg gaggtgggtg
                                                                     4980
gggccttctg ggaaggtgag tggagagggg cacctgcccc ccgccctccc catcccctac
                                                                     5040
                                                                     5100
tcccactgct cagcgcggc cattgcaagg gtgccacaca atgtcttgtc caccctggga
cacttctgag tatgaagcgg gatgctatta aaaactacat ggggaaacag gtgcaaaccc
                                                                     5160
tggagatgga ttgtaagagc cagtttaaat ctgcactctg ctgctcctcc cccacccca
                                                                     5220
ccttccactc catacaatct gggcctggtg gagtcttcgc ttcagagcca ttcggccagg
                                                                     5280
tgcgggtgat gttcccatct cctgcttgtg ggcatgccct ggctttgttt ttatacacat
                                                                     5340
aggcaaggtg agtcctctgt ggaattgtga ttgaaggatt ttaaagcagg ggaggagagt
                                                                     5400
agggggcatc tctgtacact ctgggggtaa aacagggaag gcagtgcctg agcatgggga
                                                                     5460
caggtgaggt ggggctgggc agaccccctg tagcgtttag caggatgggg gccccaggta
                                                                     5520
                                                                     5580
ctgtggagag catagtccag cctgggcatt tgtctcctag cagcctacac tggctctgct
                                                                     5640
gagctgggcc tgggtgctga aagccaggat ttggggctag gcgggaagat gttcgcccaa
                                                                     5700
ttgcttgggg ggttgggggg atggaaaagg ggagcacctc taggctgcct ggcagcagtg
                                                                     5760
agccctgggc ctgtggctac agccagggaa ccccacctgg acacatggcc ctgcttctaa
gcccccagt taggcccaaa ggaatggtcc actgagggcc tcctgctctg cctgggctgg
                                                                     5820
gccaggggct ttgaggagag ggtaaacata ggcccggaga tggggctgac acctcgagtg
                                                                     5880
                                                                     5920
gccagaatat gcccaaaccc cggcttctcc cttgtcccta
<210> 12782
<211> 17413
<212> DNA
<213> Homo sapiens
<400> 12782
agctgaatgg atgtgaaacc cctgtgggca tgtgcttccg agttcctcag caggcatttg
                                                                       60
tgttttttgg tagaaagttt gctttttgtt ttttttttt ttaagacaag gtctcattct
                                                                      120
                                                                      180
gtcacccagg ctagagtaca gtggtgtgat catagctcac tgccgtcctt gaactctcag
                                                                      240
actcacgtga gcctcctacc tcagcctcct gagtagctga gactacaggc gcttgccgcc
                                                                      300
acccctggct aatatttta ttttttgcag agacaggggt ctcactacat tgcccaggct
ggtctcaaac tcctggcctc gagcaatcct ctcacagcct cccaaagtgc tggtattaca
                                                                      360
                                                                      420
ggcgtgagcc accacaccta acaaaagttt gctttttatc taaaatgacc caggcattgt
cactgtactg ctattttttt aaaaaaattt tgttgttttg ttgttgttgt cgtcgttata
                                                                      480
                                                                      540
tagatgaggg cttcctgtgt tgcccaggct ggtttctgac gcctggcctc gcctccttat
                                                                      600
acaccaggac agcaggactg agccaccaca ctacccaact gcttttatct cagtgaatga
aaatgatact tgcctggagg cttcccctca tctaccccca tgtttctcta tttattcctc
                                                                      660
agttaagtgg gcagaccaac atccacctca gcaaaaactt cttcctgacg aatcgcgcca
                                                                      720
                                                                      780
gggagggctc agacacette ateaacetee gggaggtget caacegette aagetgeege
caggagagta cattetegtg cettecacet tegaacecaa caaggatggg gatttetgea
                                                                      840
tccgggtctt ttctgaaaag aaagctgact accagtaggc ggtttggtcc cttcctctcc
                                                                      900
ccaccettee etgteeetee ccaetggtet gtteetegge ccetagaggg etettteate
                                                                      960
ctctgaatgt cagttacttt ttctgtaaca cctgcccacc tcgaaggact agtgtgggga
                                                                     1020
tttgatggat tgaggaagtt ctagtgttat agtaaggtaa acaatggaaa aagccactgt
                                                                     1080
ggatattttt ggttggaaag gggtggctgt acagtgaatt gcagggtcta atttcataag
                                                                     1140
cgtgtctctg aattctcaag ttggtacttt aatgttaaac tacgaatcca gtctcgtcat
                                                                     1200
ttgaagaaag ctgagcagtg ctggtgtaat ccttgatttt ccaggccacc tggcctagca
                                                                     1260
gagccaccaa gggtgtaagg tgggaaccat ctcaacggtt cccacctcca gaacctctcc
                                                                     1320
ctattatagt tgtcatgtca ccagctctct ctccccttcc tcatgggatc ccacgtttgg
                                                                     1380
gaaccetttg tggctgacat caccatttee tgccactgte caggtggcet caatteacaa
                                                                     1440
tggcttctgc cactttgact tctgcctcaa ccatgtatgt tcagctgggc acttgattgg
                                                                     1500
                                                                     1560
caaaggcaga atctaccctg ggtgatttaa gctaaaggga attcatcgaa aggccattgg
                                                                     1620
agactccaga actgatggga ggtagggggt caggctagga agaacaggag ccaaggatgt
gttggaggac cagggtgtga gatgacccct tggactctgg gtcatgtgct gaggtctaaa
                                                                     1680
gatcttgtgg agtgtgtctg aggtgctggg cttgggtcag ccacctggcc tgctggttcc
                                                                     1740
```

tgtagaggaa	gagccaatgg	gaggtagagg	cagggaactg	cccttgcccc	aagataatgc	1800
atgatgcaga	aataatttcc	catggcgaag	ggagacaaag	caatgccagg	cagctgcata	1860
ccaatgaatg	ccaccatagc	acggctgtag	ccccctgcc	actgacaggc	tgtcttcatt	1920
tgctaaagcc	taccatgggg	gaagggacct	ttcctctcag	ctctgaggat	gcttagagga	1980
agactggtgt	gttcagttta	gtcctcactg	acaagaaaat	aggagcatga	cctggtggca	2040
ttagaataac	agtgtccttt	gtcaaactca	ttactctccc	tgccagccac	aagtcactct	2100
cccagggaag	cctcaacccc	tcaactctct	ctagggtgag	ctccctaccc	caagaggaca	2160
ccccacctct	caaaggtttc	tgacttcctt	gtcccaaaat	attaatcctt	ctgctccaga	2220
ttccaatgat	cagcaccaag	aggtcccctt	ttccttctgc	caggcattgg	ccctgctgat	2280
aggactcttg	gtcacttagt	taaaatcaca	gtggcccaag	gaagaacctc	ctgagcttga	2340
ttaccctcac	tatggagcag	aaggacctgg	ccctggacac	aggggcggtg	cacagtataa	2400
actaaccact	gcctgacctg	agctttggct	gaaatgacac	acaggcctct	gcactgccca	2460
cctctccaac	ctgaggcaga	acaagtaggc	gatgatttgc	actgcatgat	tctcagtgtg	2520
aaagtctatg	ttggcaaagg	atatttcaag	tggaacttag	aagctattcc	ttaaggctag	2580
gacgaacacc	acgctacacg	cgaaggctat	cctatttgat	aaagatcaaa	aactagcaaa	2640
caaaaatctc	cagctgccca	cgttgctttg	gtcatgaccc	ttccttcaga	tcacttctgc	2700
ctttattttt	gctgtttagg	ggatgtgtta	tcacagaaac	ttggaatgca	gagaaatgtt	2760
atcacagaaa	cttggaatgc	agaaaaattt	ttgcttttta	ggggaggtgt	tatcacagaa	2820
acttggaata	caaagacctc	ccccaccgc	agccctgccc	caccccacct	accccctgct	2880
ggatttagca	ctgcacttcc	attttagcag	tgatttcctt	cctttttgcc	ctcgcctgcc	2940
ttccaqtaac	acataatttc	cttctatttc	cagagetgte	gatgatgaaa	tcgaggccaa	3000
tettgaagag	gtatttgtaa	ctctttgaat	ttcacccact	ctgtcctgga	caatccagag	3060
agcagaggag	caaaaaaact	ccaagagttt	ttggacttca	cgaacaaagc	ctgaaactaa	3120
ggataaagcc	gggtactggg	aatccaagag	tcgactacct	gcatcagctc	tggcctctgt	3180
actagagaca	tgggccagtc	ccttgcctat	tagactatac	tagccactgt	caaaatccat	3240
ccacaacatt	ccagctagtc	tttattcttc	tgagtcccca	ctagaataga	tcctaaaagg	3300
ccattttaat	tggatgctag	agaagatacc	tctqtqaqaa	attagaatat	tactccttcc	3360
	acattccttc					3420
tracactata	cctgatctta	acccaaatca	ccatagaatt	tagaccccag	ggaggggtag	3480
neangagaga	tgggaggtgg	ctgccatgga	aggggggga	gacacttggt	gtcatgcctc	3540
actctaatac	attctcatgt	ctctacctca	ccttccaqtt	cgacatcagc	gaggatgaca	3600
ttgatgatgg	attcaggaga	ctatttaccc	agttggcagg	agaggtaaat	gttcccaaaa	3660
accatattat	gcactctggt	tgatgcaaag	gaagagacag	tatatatacc	caaggggact	3720
ttagtttaaa	ggggagagga	aacaaactga	acaaaagcaa	agagaaattg	caaatggcac	3780
ttagattaca	gctcagccct	cttacatata	tcctccctaa	gacctccgca	tgctgccggg	3840
ggcttccatt	tgcatggtca	gccctgactc	tatattcctc	cttccttagg	attcctgggc	3900
tcaccttata	actgttttat	tttctctatt	ctacaccaat	tgaggcatga	aacttggccc	3960
cttatccttg	atttccacaa	aggatttgga	gagatggaag	ggtttcaagt	ctcaagaatg	4020
caggccacct	gcaacagagt	gtttgaatta	gacttttctg	ttctcttttc	ttttttcttt	4080
ttttctttt	agagacaggg	teteteteta	tcacccagge	tggagtgcag	tggcatgatc	4140
atageteact	gcagcctcca	cttcctgagc	tcaagagatc	ttgccacctt	agtctcccaa	4200
gtagctggga	ctataggtgc	acaccaccat	gtctagctaa	tttttattt	atttttattt	4260
ttgtagagat	ggagttttgc	catattaccc	aggetgetet	ggaactcctg	ggctcaacaa	4320
tcctccaacc	ttggtctgcc	aaagtgttgg	gattacagat	gcataccacc	atgcccagct	4380
aatttttaaa	tttttttag	agacagggtc	tcactttgtt	gtccaggctg	gtcttaaacc	4440
cctgagctca	agcagtcctc	ccacctcagc	ctcccaaagt	gctggaatta	cgggtgtgag	4500
ccaccatacc	tggccacttc	cctgttctta	aaaaaatccc	tcagccattt	agtcccatca	4560
caaagttatt	tagccctctt	tcttcccaac	aactccaaaa	aaaaaaaaaa	agtcctcttt	4620
cttcactato	tggaggaact	ttccaatcat	tgagctcatc	tggtactccc	ttcgctgacc	4680
taaagaccca	tcaaagtact	aagccaggca	tegtetgete	tgcgcctcca	ccggcctctc	4740
accetetact	ccctcccaga	ttcccaagga	aaggggccat	gagagtette	tttcccctct	4800
gattgaatcc	cacacataca	caccccaaaa	ggcaaacatg	actgcaatca	atcttggttt	4860
taaacaaann	agtttatcca	tgagttacac	aaatatgtgt	aaqtqqataq	agacatctga	4920
accestasaa	gaccetagea	tgatgggcat	agaggaggg	cggctaggtc	ttggagacag	4980
ctaattttca	ccagttttac	aggaagtctg	agetttgagt	tttaaagaat	gaagaaaaca	5040
taccadataa	gaggaatggt	ataagagaat	taagaaagac	cacaaacatq	ggtagagggg	5100
agtatttatt	atttatattc	tctacagcaa	agaaatggtg	agtgaactct	ccctactgca	5160
tccatacatt	aaaacaccot	atctaggctg	ggcacagtgg	ctcacacctq	taatcccagc	5220
actttgggag	actasaacta	gaggatcott	tgagcctagg	agtttgaggt	ttcagtgagc	5280
taggatgatt	ccactgcagt	ccaqcccaqc	ctgagtattc	taaaaagaac	caaaccaaaa	5340
acactgtate	taaaatccag	aatgggggag	tactactcaa	agtgtggtct	ggggacagca	5400
2000090000	222222			0 0 00		

gccccaacat ggctcggggg cttgttagaa atgcacattc ataggcccca ccgcaggcct 5460 acctaatgca ctggtgtcct gccctgtgct catccagctc ccacgggggg ccaataacta 5520 5580 tgctctggtt atgtgtccac aggatgcgga gatctctgcc tttgagctgc agaccatcct 5640 gagaagggtt ctagcaaagc gtgagtatcc cctcattgca aaacctcatc ctgctctttc 5700 ccctgtggat gggagggaac atggaaatct ttccccctcc atgtctggct gctgtgacta 5760 aaccaccacc ctccatcccc tccaagaagt ggatgaagga tttgtatgat gtgatgaaaa agaacaagtg tttgtagcat ccacagatca aagatcaaat ccaggtttcc actacatact 5820 5880 5940 ctgtcgccca ggctggagta aagtggcaca atctcagctc actgcaatct ctacctccca 6000 aattcaagcg attctcctgc ctcagcctcc caagtagctg gaatcacagg caagtgccac 6060 cacagccagc tgacttttgt atttttagta aagacagggt ttcaccatat tggccaggct ggtcttgaac tcctgacctc aagtgatcca cctgccttgg cctcccaaaa tgctgggatt 6120 acaggcatgc actaccacat ccagctaatt tttgtatttt cctagagatg gggtttctcc 6180 6240 atgttggcca ggctggtctt gaacccctgg cctcaagtga tctgcccacc tcggcctccc aaagtgctgg gattacaggt gtgagccacc gtgcccggcc acatcttgta actaactatt 6300 tcttaagcaa aaaaatgtca gaggattgat tgttcaaccc cttactgtgg atcaccagca 6360 gggaggagcg ggaaacacaa cacagagaca ttttttcccc tcaaattatc aaaagaatca 6420 cgctgcattt gttaagagag caactggcaa tccaggaagc agagttttga acatatcaga 6480 agttaggaat ctgcatcaga gacaaatgca gtcatggttg tttgctgcat accagcccta 6540 gggatcatct cgagaagcct catggacttc aagggacatc attccctctg acaagatggc 6600 ctctagccta actccatgag ataaaataaa tctgcctttc agagccaaag aagagtccag 6660 6720 ggccagctgg gtcttccctc ccagtgtgaa ccaagagggc tgggccagtc aggttacggt 6780 cagtccagtg cagggcctcc ccagaggaga cccagtctgc acccgccctc ctctaatttt cagggaaggc aagaagattg tgtttaccct ggaggccacc aggcacaagt gaggtcacag 6840 6900 agctcttcag atatgcagtc ctcatgagct gaggagacta aagcctcatt gtttctgcac 6960 agatggaggg tggggctggg aggtggggaa gaagcgggcc ttgcctggat tcagcccgct 7020 ccttgctggg ggagcagcat tcgctccgcg cgtgcctctg agcttactac cctaccccta 7080 gctgcctgct gactccagcc ttctggaggg ctccacacca gagtctgcat gcacagctgc 7140 tgggccagag ccttatgacc atctaagggg ttggtgccca gagtggcagc tttgaggcag 7200 gtcaggctct aacctctttc ggggacataa caaaaaggct gggcttttcg tgaagtctgt 7260 ggggagccag gttcacattg gtgactaggg agggtctcat gccacctgcc aaacaccaag 7320 tggacaggac tcacttagtg cagcacaaat agctcgtgga tcgatcccag ttcctcaggt ttctcagtca gctggggaca cagtccataa atgtctgcag atggacagtt caagtaaacc 7380 7440 tettetete acgggteata geetagaatt aacacacetg etetetgttt tettetteec 7500 tgcccaacaa ctacaggtga ctttatatcc tgtgggcacc taaggcccaa ccattgatca 7560 ttctgttatt tatttgttca aaaagcactt tttaaagccc tgtttgccca cggcaaatat 7620 acagagacat caggacaatg tggacatcat ctgcactgtc ccagtctggt agtcactagc 7680 cacatgtggc tatttaatat aatggaagtg gcttctgtat gtgaagggca cagataaaga 7740 atatctccat gattgtggaa agttcagttg gacatcaccg ctcagagatt tttcctgtca 7800 cactgatttt gtcttttagg ccaagatatc aagtcagatg gcttcagcat cgagacatgc 7860 aaaattatgg ttgacatgct agatgtatcc tttaatgtgc tccagggaat agagactggg 7920 ggagtttaaa atctcactcc agaaagattc aaacacatgg ccttctccct tttcaaaata 7980 gccagttgtt cccaacttgc tgagttgctg tcggacagtc agcagcgctg acctccctta ctagggaaat gcgagaaccc tctgatgagg gaaagcaaat gctacacccc ccctcccacc 8040 8100 taccctgaaa ggcttagaat gcaggcccat ggcgggcggt ggctcatgcc tgtaatccca gcactttgga aggccaaggt gggcctcctg actcacgagg tcaggagttc gagaccagcc 8160 8220 tgaccaacat ggtgaaacct tgtctctact aaaaatacaa aaattagctg ggtgtggtgg 8280 cgggcacctg taatcccagc tactcaggag gctgaggcag gagaatcact tgaacctggg 8340 aggeggaggt tgcagtgage tgagategeg ceaetgeact ceageetggg tgacagageg 8400 tgactcatcg ccaaaaaaaa aaaaagaaaa agaatgtagg cccaccagtc cattcctggg 8460 gctggtgcgg gaaattcctg acaatatgcc catcacttct ttgcacaaag cagctcgaat 8520 ttgtttcctc agtgatgtgt ttccattact tcctctagga aaatattccc taaccacagt 8580 atttctgatg tgaatctgtt ttgtctgatc aagatcgtcg tcttctttat ttatttattt 8640 atttattttt tattattata ctttaagttt tagggtacat gtgcacaatg tgcaggttag ttacatatgt atacatgtgc catgctggtg ctttgcaccc actaactcgt catctagcat 8700 8760 taggtatatc tcccaatgcc atccctcccc cctccccca ccccacaaca gtccccagag 8820 tgtgatgttc cccttcctgt gtccatgtgt tctcattgtt caattcccac ctatgagtga gaatatgcgg tgtttggttt tttgttcttg cgatagttta ctgagaatga tgatttccaa 8880 tttcatccat gtccctacaa aggacatgaa ctcatcattt tttatggctg catagtattc 8940 catggtgtat atgagccaca ttttcttaat ccagtctatc gttgttggac atttgggttg 9000 gttccaagtc tttgctattg tgaataatgc cgcaataaac atacgtgtgc atgtgtcttt 9060

9120 ataqcaqcat qatttatagt cctttgggta tatacccagt aatgggatgg ctgggtcaaa 9180 tgatatttct agttctagat ccctgaggaa tcgccacact gacttccaca atggttgaac 9240 tagtttacag teccaceaac agtgtaaaag tgtteetatt tetecacate etetecagea 9300 cctgttgttt cctgactttt taatgattgc cattctaact ggtgtgagat ggtatctcat 9360 tatggttttg atttgcattt ctctgatggc cagtgatggt gagcattttt tcatgtgttt 9420 tttggctgca taaatgtctt cttttgagaa gtgtctgttc atgtcctttg cccacttttt 9480 gatggggttg titgtttttt tettgtaaat tigtiggagt teatigiaga tietggatat tagccctttg tcagataagc aggttgcgaa aattttctcc cattttgtag gttgcctgtt 9540 cactctgatg gtagtttctt ttgctgtgca gaagctcttt agtttaatta gatcccattt 9600 gtcaattttg gcttttgttg ccattgcttt tggtgtttta gacatgaagt ccttgcccat 9660 9720 gcctatgtcc tgaatggtaa tgcctaggtt ttcttctagg gttttgatgg ttttaggtct 9780 aacgtttaag tctttaatcc atcttgaatt gatttttgta taaggtgtaa ggaagggatc 9840 cagtttcagc tttctacata tggctagcca gttttcccag caccatttat taaataggga 9900 atcctttccc cattgcttgt ttttctcagg tttatcaaag atcagatagt tgtagatacg 9960 gcgttatttc tgagggctct gttctgttcc attgatctat atctgttttg gtaccagtac catgctgttt tggttactgt agccttgtag tatagtttga agtcaggtag tgtgatgcct 10020 10080 ccagctttgt tcttttggct caggattgac ttggcgatgc gggctctttt ttggttccat 10140 atgaacttta aagtagtttt ttccaattct gtgaagaaag tcattggtag cttgatgggg 10200 atggcattga atctgtaaat taccttgggc agtatggcca ttttcacaat attgattctt 10260 cctacccatg agcatggaat gttcttccat ttgtttgtat cctcttttat ttccttgagc agtggtttgt agttctcctt gaagaaggtc cttcacatcc cttgtaagtt ggataagatc 10320 gtcttcttga tttagataag ggctactttc atgaggatcc tacttccctt ttgctctagc 10380 tccttcccag gccacccacc tttccccaag gcaaactagt catccatttc ccccttgttt 10440 10500 ccaatgctta gtgagaagtg gtggtaaggg gcagcctaag cttctgtgaa gttttttctg 10560 tttgtttgtt tagttggttg gttggttttt tgagacgggg tctcactgtg tcacccaggc tggagggcag tggcatgatc tcagctcact cgaacctccg cctcccaggt tcaggtgatt 10620 10680 ctccccctc cagcctccct agtagctagg actacaggtg cgcgccacca tgcccagctg atttttctat ttttagtaga gacagggttt caccgtgttg gccaggctgg tgtcgaattc 10740 ctgaccacag gtgatctgcc caccttggcc tcccaaagtg ctgggattag aggtgtgagc 10800 10860 caccatgcct ggccacttct gtgaagtttt atctagtgga ttcatggtgt acacctgcta gctcccttca ccaaaggcct cttagatata ctccacatac tttaaaaaaa acagcaaggg 10920 cctagccact agaagccatc caaagccctc tgcatgtcat ccaatacctc atttttagta 10980 gtatctgggg cctccacagc acccctagat caaaacagca accagattcg gcagggagcc 11040 agcaggtctt tctcgccctt cctccaatcc tttaaatgga ggtttagcca gtgggaaaag 11100 caggaaaagg atccttctgc aaaccctcct tgtgtatatg ctatgatatt caaaagatcc 11160 agttgagaag acaaactagg tgacactatg tgcaaatgga cccacactca agggctttcc 11220 ttgactgaag gcagtcggac gggagtggca agctggggct gaaggagttc tacattctct 11280 ggacgaagat tcaaaaatac caagtaagat cccagagatg cgggtggatc tgtgttggga 11340 aacattctgt tcatatgctt taagatgcag caactcctgc acagagtgga gaaacatttc 11400 caaggggatt gggattttac ccataatgaa gctcagagtg agtaaagatg gggctgagga 11460 aatgcaaaca aaaaaccaac caggacttcg caggtgaaat ggcctattcc cttcctcctg attattggga tcatctaaag gccaccatca agggtttcct gaaaagggtt tttgacagct aaagtacaaa aattatataa gacaagaaca tggacctatg ggcgttggct ggctgatttg atgggcatat ttacaaacca gctcacagac agaagcaaaa tactattagt tatttaaggc 11700 agaaacataa gtgattcttc cacggccaaa ctagaggcac agagctggaa aaacttcatc 11760 cccactcagc acatactagg gaggtaactt gccagctttg ctttgggtca tagttcttac 11820 agctaactta tgtgttccag aaaatttacc gagaaatcga cgttgacagg tctggtacca 11880 tgaattccta tgaaatgcgg aaggcattag aagaagcagg taacccttta taactgcatt 11940 ttcgttccta gtttaatctg tctgtagaat atgtgaacac tcatcttata ccatataaca 12000 caagatttgg taaagctata aaataaagta ggtgctggtt taatacagac acctcctttt 12060 cattcccctt tcaaagacta attggtaaaa ttaaatgcag taggatgctc tgccctctgt 12120 gccttcttga atccaagttt cctttggagc cgcctggcac agtaagcagg caaagccagg 12180 12240 tctcaacagc ctcctccagg tgcttccttt ctggtgcagg gttggttagg cagaaatcaa atgtctcagc tcagccctta gggtaagacc ctagcagaat tggatatcaa taaaaggaca 12300 caagcgagtg gtagaccagc aaagcaggag actgctgggc tttgggaaca aatgtgtcag 12360 catgaggctg ttcattctat ttgctggaat ataatgctgc tgcagagacc ccacacaaca 12420 ttggtttata cgaggtatgt ctttctgtcg tatagcaatc ccagctccag cagtccacgg 12480 12540 ctaggacggt gcctcctact atcctaccat gtcactatct gatcacgctt cccccagcct cccccatcc atgatgccca ccggaccttc aagggtcacc ctcatccaag ggacctggga 12600 cagcctgcca ccacaaacac atgccaccaa caggttgaca gaagaagggc cccttgcctt 12660 taagggcaca caggccattt ccggtcacac atcccaccag ccagactctg atcacaaggc 12720 ctctgttgac tgcaaggaag ctgggacatg cagtcttgat gctaggtggc cataggctca ataaaaatta ttttactctg gaaggagaga gaactactat gagtttacca ggaaagcttc tgctcacata tatccaggaa gaatctgatc ttcaagacga ttgagagcta aacaaaaaat caaacagcag cagcatggtt aacaacatga agcaactgtg accatgagaa cagaaacagg 13020 caagaaaaca cttatgtgtc agcaaaggac acaggcaggg tgaaggtgga cagttcaaaa 13080 acaaaagaaa cagcagaagg tactggcttt gcaaaatcaa accagtctca cagaagagca gccaagggac aaaagcaatt atacctcatt taaatcacca cattagtttc atagcctgtg 13140 agcgcagcta aatggaacaa tctaatgctt agcaatgagt ttgtttgttc atgtaacttc 13200 13260 aggtttcaag atgccctgtc aactccacca agtcatcgtt gctcggtttg cagatgacca gctcatcatc gattttgata attttgttcg gtgtttggtt cggctggaaa cgctattcag 13320 13380 taagtggata tttggggaat gactcatttc agttctcttg gtattaaagt ggcctgcctt tcacctcggt gaaatcatct aaactagaga catgtcttcc aggagttgag aatgaaattc 13440 cctctttact aatttgaggg tgaggaagaa agcatgtatg gtggtcagtg aagtcagttg 13500 ctgaactgaa aagaggataa tgtgatctgt ttcagctcac tcacttgtga caccctcttt 13560 ttctccctcc acagagatat ttaagcagct ggatcccgag aatactggaa caatagagct 13620 cgaccttatc tctgtgagtc agcaggcccc gccttgcttc taaggggatg ggggaggcat 13680 ggggcggaaa gggctgttac ttgagtgatc tgctttttca agttttgctt taaagagctc 13740 ttggtctgtc ggggccaggc ctgtaaccgg ttgtaagatc ccacaatgca cttttacttg 13800 cagttgtttt ccaaccacct attctcaagt ccaaaatgca cgcctggctc cctcttctca 13860 13920 tgagctttga cttgagtgta gctcaaggtt aaactaagga gtggctgcag gatcatgctt agaaaaatga actcctgatt agcatgcaag ggagaacatg tttatataaa gaaatccttc agctgaaatt caagttgggt tttgggaaga tccatcattc ttagagtgga tctacttaaa atactttaag caaattagtt ttctctactc cctccccgtt taagataaaa ccaatactag taaatacgtt tgccatttat tattgttatt gcactcatgt gtctggaacc ctagcaatac acatctctga aatgatcatc aatctgaatt aagtgggtat gctaatttca caaaaagcaa 14280 agcgtaaaat gttctcgtgt catcccaatg acaggaagtt ctctcactga aagaaagaag ccaggtgggg tatacttcca ttatcacctg gctccagtca gcatttcctc tatactcagg 14340 14400 gaaggccaca gagggccggg cgaagtggct gacactgggt gagaatggca gttgtcagtc 14460 ctgtccgtgt aacagaggag tgaagtggtg aggagggcag gtctaaggca ctggcagctc ttttccatgg attttgaact ctggaggaag gcagcaacta aataactgtc tcattctgct 14520 attatgcatt gtattagcaa agtgaaaata tagtctatct ggttacaaat aacactaact 14580 tgcttaaaac tttacatatc ctaggaaata tctctacccc tagattgcaa tgtagagtca 14640 accccatctc taaaaaaata aaaaattagg ctggccgcag tggttcatgc ctgtaatccc 14700 atcactttgg gaggccaagg caggtggatc acctgaggtc aggagctcaa gaccagcctg 14760 gccaacatgg tgaaaccgcg tctctactga aaatacaaaa attagggctg ggcgcggtgg 14820 14880 ctcacatcta taatcctagc actttgggag gccaaggcgg gcgaatcacc tgaggttggg agttcgagac cagcctgagt aacatggaga aaccccatct ctactaaaaa tacaaaatta 14940 gccaggcgtg gtgacacatg cctgttaatc ccagctactc gggaggctga agcgaaagga 15000 ttgcttgaac ccgggaggcg gaggttgcgg cgagctgaga ttgcaccatt gtactccatc 15060 cagcctgggc aacaagagca aaactgcatc taaaaaaaaa attagctggg cgtggtggca 15120 15180 ggtgcctgta aatacgttac tctggaggct gaggcaggag aatcacatga acctaggagg tagaggttgc agtgaactga gatggtgcca ctgcactcca gcctaggcaa caagagcaaa 15240 15300 accetgtete agaaaaaaat aaataaaaaa taaaaaaatg ageeaggeat ggtggtgegt gcctgtagac ccagctaccc aggaggctaa ggtgggagga acacctgagc ccagaagtca 15360 aggccgcagt gagccatgat ctccccacta cattccatct tgggtgacag agcaaggccc 15420 tgtctcaaaa aatttaaaat gaaataaata gtagagtcaa cacaactgtg acacgaaaca 15480 tgccacatgt taagttctgg aaatcctagc ctgtcattct tgctggatat cctattctac 15540 cccagccacc caccccact ccagggtcca cctggcctgc ctgctcagtc cactccctcc 15600 gcatctcctc cgagaagcat cttcttaccc actggctttt cctgccactc ctaagcctta 15660 ccttttgcag gttcctggag atcctcgctt ctcgtagtct ttgcaaggat gagccatgtt 15720 cagaagctct ccgttcagtc tgcagggatt tcaaccttgg ctgcagattc catcacatgg 15780 ggagctttgc caaagtgctg gtgtcctgtc tgtatcccag accagttgaa tcaatctgat 15840 ttaaagtttc cgtatcacta caacttagaa ccaatgctga acaccattgg ttgcagggat 15900 15960 atccacatcc caaactaact tctgatgtga tactctgagg cagagatgtg aaaatgctaa tttctgttgt gtgaatttca cttttcatgt gtgcaatcaa ccctgtaata tgattcatgg 16020 ccacttaatg caaatcacac agactactga cctgttaaaa gctagactct agaaatcagg 16080 taagaaaaat atgagttagt gcactgatat tgtagccctc aatcagcttt tccagtacaa 16140 gttttttgga acaatctaca ggtacttaaa tagcctttaa ttttaaaagt ggtcactgag 16200 ctgacttttt tttttccttc ctcacagtgg ctctgtttct cagtactttg aagttataac 16260 taatctgcct gaagacttct catgatggaa aatcagccaa ggactaagct tccatagaaa 16320 tacactttgt atctggacct caaaattatg ggaacattta cttaaacgga tgatcatagc 16380

```
tgaaaataat gatactgtca atttgagata gcagaagttt cacacatcaa agtaaaagat
ttgcatatca ttatactaaa tgcaaatgag tcgcttaacc cttgacaagg tcaaagaaag
                                                                   16500
ctttaaatct gtttatagta tacacttttt acttttacac actttcctgt tcatagcaat
                                                                   16560
                                                                   16620
attaaatcag gaaaaaaaaa tgcagggagg tatttaacag ctgagcaaaa acattgagtc
gctctcaaag gacacgaggc ccttggcagg gaatatttaa agcaacttca agtttaaaat
                                                                   16680
gcagctgttg attctaccaa acaacagtcc aagattacca tttcccatga gccaactggg
                                                                  16740
aaacatggta tatcatgaag taatcttgtc aaggcatctg gagagtccag gagagaagac 16800
tcacctctgt cgcttgggtt aaacaagaga caggttttgt agaatattga ttggtaatag 16860
taaatcgttc tccttacaat caagttcttg accctattcg gccttataca tctggtctta 16920
caaagaccaa agggatcctg cgcttgatca actgaaccag tatgccaaaa ccaggcatcc 16980
aatttgtaaa ccaattatga taaaggacaa aataagctgt ttgccacctc aaaactttat
                                                                   17040
gaacttcacc accactagtg tctgtccatg gagttagagg ggacatcact tagaagttct
                                                                   17100
tatagaaagg acacaagttt gtttcctggc tttaccttgg gaaaatgcta gcaacattat
agaaattttg ccttgttgcc ttatcttctt ccaaatgtac tgttaaataa aaataaaggg
                                                                   17220
ttaccccatg caatcacacc atgccatgtt ttccttcctg gagggcagcc ccacagggac
ggtttatgag cacacaatta tagcttgttt ctactttaac aaggtatgct gcctctgtaa 17340
attcatgtat tcaaaggaaa aagacacctt gcctatatta aaatgtggaa ctataaaatt 17400
                                                                   17413
ttttaaaatc caa
<210> 12783
<211> 504
<212> DNA
<213> Homo sapiens
<400> 12783
                                                                      60
aggaggtacg tctggcccat gtcccggggt gctcaggtca ccaaaaaaagc gagaggctta
                                                                      120
gactgctgga gctcagggag cgtcgtgaag cccgggcagg ggctggtggt catgaaggat
                                                                      180
gagtcctggc cacccctggg gccctgctga agttgcccag gctctagatc ccactggtct
                                                                      240
aagctctggg caaggtttct ggaaagtcct tgtgggaccc gctgcctccc tgtgacctgg
cagagcccat acagggtttg gttctgggca gaaaatccat gatcctgaga ctgcaggagg
                                                                      300
cttttcacaa agttctttgt cactcttagg agaagactga gtcagggaaa aggtgaaccc
                                                                      360
tgcagactgt actagaagac aacgcgggag cacagaggag accaggaccc aattcccagg
                                                                      420
ctgtgtgacc ttggacacgt tacagctcct ctctgcattt cagggttttg tttttttt
                                                                      480
                                                                      504
ttttgatttt tggtttgttt gttt
<210> 12784
<211> 101
<212> DNA
<213> Homo sapiens
<400> 12784
cagagettge agtgageega gategegeea etgeaeteea geetgggega tagagegaga
                                                                       60
ctctgtctca aaaaaaaaaa aaaaaaaaaa aaaaaaagag t
                                                                      101
<210> 12785
<211> 2540
<212> DNA
<213> Homo sapiens
<400> 12785
                                                                       60
gggatgttat caagtggctg gtcaaagcag taactgaaga tggattgact cagcccccaa
atggaaatca aacgtettea ggaacaggaa tettgaaage cageagtage caccettett
                                                                      120
cccagcccaa cctgacaaag aacaccaatc agctgtaagg ggcaggcagt tctctttcct
                                                                      180
ggggctcttg gggtttagtg ttttagagag aacaacacca atccctaaga gcagcttccc
                                                                      240
ccaaattaac aagatcttag aacataggct gatgcttatt caagacttag tttaactaga
                                                                      300
ggctaaattt ctgatttcaa aggcagaaca aaaccaggtg ctttcacccc taaaatgaat
                                                                      360
aggacttcac aaagtgaata cgaagtcaca acgcagatgc aaaacaaatg ctagaggaca
                                                                      420
ctgcccttca cttcctgcat ttcaggagac agtaaagggt tacagctcct catcacttca
                                                                      480
```

```
gatatctgtt gccatagaga aggagtggtg tgtagtgtga gttttgttaa cctcgagtcc
                                                                     540
tcaaggacct gggtttctct cctcaggtcc cgggagaaaa atagcattca gcctgcaggt
                                                                     600
tccaacacac cagggcaggt atcatcaccg cagactgcac tggaaagaaa ttcatggcat
                                                                     660
                                                                     720
ttcttttatg gagttgagag tggtcttggc gttttttgag agatgccggg agattagggg
                                                                     780
ctggggctac ccttgcacaa ataacccagt attccatgtc aatcatattg tgaaaagcca
                                                                     840
gtcacactgg gcatttcaag tgtaacattt gtgtctgaat tcacaatgtt ataatctggt
                                                                     900
tgcaccaacc tgatttttat ggaagaccta caagtttaaa ttgtttccta aattgtaaat
                                                                     960
aattataact aatttaggaa acaattttat atctaaaggg gaatgttttg gaacaatgaa
                                                                    1020
gcatttggac agattgagga aggccctaaa gtagcattct cccacacggg ccacatacag
acccaagagg gaggtggaca ctgttccttc aatggaagct agtatcatat aacaatcatc
                                                                    1080
ataataaatg tttataaata catgttagta gaaataacaa tagggtcccc taaaagtcaa
                                                                    1140
ttttgttatg atcttaacaa caatagtagg ttgctaccac ttatcactag agagtccctg
                                                                    1200
tgagatattt tatatagcac tcacaacttt acaaaataga tattattgct cacccttttt
                                                                    1260
atagatgaga acacttggac tcagggcagt ttagtaactt gtcgaaggtt aaacagctta
                                                                    1320
tcattgtaga gacagaatct gaggccagag ctgctggtct ggcccacctg ttgtgttact
                                                                    1380
agctgcagat tttcttaaag taaaaccttt cttccatcac agataacatg tgttgccggg
                                                                    1440
cgtggtggct cacgcctgta atcccagcac tttgggaggc caaggcgggt ggatcatgag
                                                                    1500
gtcaggagat ggagaccatc ctggctaaca cggtgaaacc ccgtctctac taaaaaaata
                                                                    1560
caaaaaaata gccgggcatg gtggcgggca cctgtagtcc cagctactca ggagactgag
                                                                    1620
gcaggagaat ggagtgaacc tgggaggcgg agctggcagt gagccaagat cgcgccacag
                                                                    1680
1740
aaacacgtgt tagaaaaggc tgatgtcagg ccaggctcac ctttctgaga ggttgccccg
                                                                    1800
actcctaatg ccacatcagg ctggctctct cccacagtta gatctaatgg gagagaaggt
                                                                    1860
                                                                    1920
caggttccac caggggaggt tctgagaccg aacttagtaa gaagctattg taaaggaaac
                                                                    1980
agtaacagga gaaaactgta tggcaaatac atattttctc ctgtatcaaa gaaatttaaa
tcattttaag tcactctgga cctgtttctt catctgcaaa acagggaagt tatagattag
                                                                    2040
                                                                    2100
atgatcctta tagttcccta tatccttaag gttgtgtggt tctatttttg aatttaaaag
                                                                    2160
cagcttgctt ttacagctca accccaggtt ctgagaggtt caaatagtat gttctggcaa
                                                                    2220
aagggattca ggtaggtgaa attgctaaat aaaagcatgc tgatggtttg agtagttctc
                                                                    2280
cctgaccttg tgtgtgcttt ataagatcct ttagtagtct ctactctcga tgtacactgg
                                                                    2340
tggggacctc ctcccagcca gagagtggct ccttgccaga ccctcacact catctgtgtc
ctatgttctg gactcaggat tgtgtgccag cttcagagga tgctctccat agccgtagag
                                                                    2400
gtggacagga cccccactg cagctccaat aaaattgccg agatgatgtt tgggtttgtg
                                                                    2460
ctggacattc ctgagaggag ccagaggtga gtcttgattt tgttggggag agcagttatt
                                                                    2520
                                                                    2540
taaaaaaaa acaaaaaaaa
<210> 12786
<211> 2540
<212> DNA
<213> Homo sapiens
<400> 12786
                                                                      60
gggatgttat caagtggctg gtcaaagcag taactgaaga tggattgact cagccccaa
atggaaatca aacgtcttca ggaacaggaa tcttgaaagc cagcagtagc cacccttctt
                                                                     120
                                                                     180
cccagcccaa cctgacaaag aacaccaatc agctgtaagg ggcaggcagt tctctttcct
ggggctcttg gggtttagtg ttttagagag aacaacacca atccctaaga gcagcttccc
                                                                     240
                                                                     300
ccaaattaac aagatettag aacatagget gatgettatt caagaettag tttaactaga
ggctaaattt ctgatttcaa aggcagaaca aaaccaggtg ctttcacccc taaaatgaat
                                                                     360
                                                                     420
aggacttcac aaagtgaata cgaagtcaca acgcagatgc aaaacaaatg ctagaggaca
                                                                     480
ctgcccttca cttcctgcat ttcaggagac agtaaagggt tacagctcct catcacttca
gatatctgtt gccatagaga aggagtggtg tgtagtgtga gttttgttaa cctcgagtcc
                                                                     540
                                                                     600
tcaaggacct gggtttctct cctcaggtcc cgggagaaaa atagcattca gcctgcaggt
tccaacacac cagggcaggt atcatcaccg cagactgcac tggaaagaaa ttcatggcat
                                                                     660
ttcttttatg gagttgagag tggtcttggc gttttttgag agatgccggg agattagggg
                                                                     720
ctggggctac ccttgcacaa ataacccagt attccatgtc aatcatattg tgaaaagcca
                                                                     780
                                                                     840
gtcacactgg gcatttcaaa tgtaacattt gtgtctgaat tcacaatgtt ataatctggt
tgcaccaacc tgatttttat ggaagaccta caagtttaaa ttgtttccta aattgtaaat
                                                                     900
                                                                     960
aattataact aatttaggaa acaattttat atctaaaggg gaatgttttg gaacaatgaa
gcatttggac agattgagga aggccctaaa gtagcattct cccacacggg ccacatacag
                                                                    1020
                                                                    1080
acccaagagg gaggtggaca ctgttccttc aatggaagct agtatcatat aacaatcatc
```

<213> Homo sapiens

```
ataataaatg tttataaata catgttagta gaaataacaa tagggtcccc taaaagtcaa
                                                                 1140
ttttgttatg atcttaacaa caatagtagg ttgctaccac ttatcactag agagtccctg
                                                                 1200
tgagatattt catatagcac tcacaacttt acaaaataga tattattgct cacccttttt
                                                                 1260
                                                                 1320
atagatgaga acacttggac tcagggcagt ttagtaactt gtcgaaggtt aaacagctta
                                                                 1380
tcattgtaga gacagaatct gaggccagag ctgctggtct ggcccacctg ttgtgttact
                                                                 1440
agctgcagat tttcttaaag taaaaccttt cttccatcac agataacatg tgttgccggg
cgtggtggct cacgcctgta atcccagcac tttgggaggc caaggcgggt ggatcatgag
                                                                 1500
gtcaggagat ggagaccatc ctggctaaca cggtgaaacc ccgtctctac taaaaaaata
                                                                 1560
                                                                 1620
caaaaaaata gccgggcatg gtggcgggca cctgtagtcc cagctactca ggagactgag
gcaggagaat ggagtgaacc tgggaggcgg agctggcagt gagccaagat cgcgccacag
                                                                 1680
1740
                                                                 1800
aaacacgtgt tagaaaaggc tgatgtcagg ccaggctcac ctttctgaga ggttgccccg
                                                                 1860
actcctaatg ccacatcagg ctggctctct cccacagtta gatctaatgg gagagaaggt
caggttccac caggggaggt tctgagaccg aacttagtaa gaagctattg taaaggaaac
                                                                 1920
agtaacagga gaaaactgta tggcaaatac atattttctc ctgtatcaaa gaaatttaaa
                                                                 1980
tcattttaag tcactctgga cctgtttctt catctgcaaa acagggaagt tatagattag
                                                                 2040
atgatcctta tagttcccta tatccttaag gttgtgtggt tctatttttg aatttaaaag
                                                                 2100
cagcttgctt ttacagctca accccaggtt ctgagaggtt caaatagtat gttctggcaa
                                                                 2160
aagggattca ggtaggtgaa attgctaaat aaaagcatgc tgatggtttg agtagttctc
                                                                 2220
cctgaccttg tgtgtgcttt ataagatcct ttagtagtct ctactctcga tgtacactgg
                                                                 2280
tggggacctc ctcccagcca gagagtggct ccttgccaga ccctcacact catctgtgtc
                                                                 2340
                                                                 2400
ctatgttctg gactcaggat tgtgtgccag cttcagagga tgctctccat agccgtagag
gtggacagga cccccacctg cagctccaat aaaattgccg agatgatgtt tgggtttgtg
                                                                 2460
                                                                 2520
ctggacattc ctgagaggag ccagaggtga gtcttgattt tgttggggag agcagttatt
                                                                 2540
taaaaaaaaa acaaaaaaaa
<210> 12787
<211> 401
<212> DNA
<213> Homo sapiens
<400> 12787
cacccacctt gcacccaggt gatcatcatt ctgcatggtc atcatttcat ttctttcctt
                                                                   60
tctatgtagt tgtattgcat atacatgtat tcctataaaa tatattttt tactttagtt
                                                                  120
                                                                  180
cctttagctc tatattaaaa ggtatcatgc tatatgtaat ctattgagaa ttttattttt
                                                                  240
cacttactgt tttatagtac caagatttgt ccatattgtt gcctgtcact gtagtttatt
tatattgata gtcatattca tactcatatc cttcatttgc cttccacctt tcaaaatttc
                                                                  300
                                                                  360
actgctatca cctgggaggc ggagcttgca gtgagccgag atcgcaccac tgcactccag
                                                                  401
<210> 12788
<211> 401
<212> DNA
<213> Homo sapiens
<400> 12788
cacccacctt gcacccaggt gatcatcatt ctgcatggtc atcatttcat ttctttcctt
                                                                   60
tctatgtagt tgtattgcat atacatgtat tcctataaaa tatattttt tactttagtt
                                                                  120
cctttagctc tatattaaaa ggtatcatgc tatatgtaat ctattgagaa ttttattttt
                                                                  180
cacttactgt tttatagtac caagatttgt ccatattgtt gcctgtcact gtagtttatt
                                                                  240
tatattgata ttcatattca tactcatatc cttcatttgc cttccacctt tcaaaatttc
                                                                  300
actgctatca cctgggaggc ggagcttgca gtgagccgag atcgcaccac tgcactccag
                                                                  360
                                                                  401
<210> 12789
<211> 3992
<212> DNA
```

tcccagcact ttgggagacc aaggcgggcg gatcacgagg tcaggagatc gagaccatcc tggctaatgc gatgaaaccc cgtctctact aaaaatacaa aaaaattagc cgggtgtggt ggagggggggggg	60 120 180 240 300 360 420 480 540 600 720 780 840 900
tggctaatgc gatgaaaccc cgtctctact aaaaatacaa aaaattagc cgggtgtggt ggtaggcgcc tgtagtccca gctactcagg aggctgaggc aggagaatgg tgtgaaccct ggaggcggag cttgcagtga gctgagatgg cgccactgca ctctagcctg ggtgacagag cgagactccg tctcaaaaaa taaataagaa attaactgt taagccctgc cttcttctc taattaatta aataaataat aaataagtg tcactaaagg cttggtggt gaatgaaata gataatacca atattagagg aactagggt gacacaagaa tgaaaagagt tggacctata gaatgaccc agatagtaag aattaggaat tcagtttctc taagcatgaa ttagtgaagt accagtaat tttggctaaa aacaatgatt ccctcttga cccagtaatt ttaaaatcca	180 240 300 360 420 480 540 600 660 720 780 840
ggtaggcgcc tgtagtccca gctactcagg aggctgaggc aggagaatgg tgtgaaccct ggagggcggag cttgcagtga gctgagatgg cgccactgca ctctagcctg ggtgacagag cgagactccg tctcaaaaaa taaataagaa attaattact taattaatta aataaataat aaaaataata attaactgt taagccctgc cttcttctct tatctttatc cataggcctg gcataagtgt tcactaaagg cttggtggt gaatgaaata gataatcca atattagagg aactaggagt gacacaagaa tgaaaagagt tggacctata gaatgaccc agatagtaag aattaggaat tcagtttctc taagcatgaa ttagtgaagt attcattag gaagggataa agaaatggtt tttggctaaa aacaatgatt ccttccttga cccagtaatt ttaaaatcca	240 300 360 420 480 540 600 660 720 780 840
ggaggcggag cttgcagtga gctgagatgg cgccactgca ctctagcctg ggtgacagag cgagactccg tctcaaaaaa taaataagaa attaattact taattaatta aataaataat aaaaataaat	300 360 420 480 540 600 660 720 780 840
cgagactccg tctcaaaaaa taaataagaa attaattact taattaatta aataaataat aaaaaataaat	360 420 480 540 600 660 720 780 840
aaaaataaaa atttaactgt taagccctgc cttcttctct tatctttatc cataggcctg gcataagtgt tcactaaagg cttggtggt gaatgaaata gatatatcca atattagagg aactagaggt gacacaagaa tgaaaagagt tggacctata gaatgacccc agatagtaag aattaggaat tcagtttctc taagcatgaa ttagtgaagt atttcattag gaagggataa agaaatggtt tttggctaaa aacaatgatt ccttccttga cccagtaatt ttaaaatcca	420 480 540 600 660 720 780 840
gcataagtgt tcactaaagg cttggtggt gaatgaaata gatatatcca atattagagg aactagaggt gacacaagaa tgaaaagagt tggacctata gaatgacccc agatagtaag aattaggaat tcagtttctc taagcatgaa ttagtgaagt atttcattag gaagggataa agaaatggtt tttggctaaa aacaatgatt ccttccttga cccagtaatt ttaaaatcca	480 540 600 660 720 780 840
aactagaggt gacacaagaa tgaaaagagt tggacctata gaatgacccc agatagtaag aattaggaat tcagtttctc taagcatgaa ttagtgaagt atttcattag gaagggataa agaaatggtt tttggctaaa aacaatgatt ccttccttga cccagtaatt ttaaaatcca	540 600 660 720 780 840
aattaggaat tcagtttctc taagcatgaa ttagtgaagt atttcattag gaagggataa agaaatggtt tttggctaaa aacaatgatt ccttccttga cccagtaatt ttaaaatcca	600 660 720 780 840
agaaatggtt tttggctaaa aacaatgatt ccttccttga cccagtaatt ttaaaatcca	660 720 780 840
gaggaagaaa actaaactag aatgaatatg aattcatgaa caattgctgg tacaggaaat	720 780 840
	780 840
aagtataaga gagtcattgc gtagtggtga cccttgggga aattatggta tatgtttgtc	840
ttcagtgcat ctccaccagc tccatgcgtg cttcccatcc ccatccctaa actcccagct	
gacaaccaag acaactattg tgcagctttg gtttcttcta ttacaagaaa atgtcatgcc	900
aaatagtact ggaataggac ttaattaaaa tactctggta agattgagac atttactgag	
tccctacaat gtgccagcca ttgtcacatt aattatctca tttgttttct gtttttttt	960
tctttttctt tttctttata atttagaaac agggtcttgc tatgttgccc aggctagttt	1020
tgaactcctg ggctcaagca atcctcctgc ctcagcctcc cgaagttctg ggattacagg	1080
catgagccac cgcacccaac cttatttatt tttcttataa tgttatccct atttatttat	1140
ttatttgttt tgaggcagag tctcactctg tcacccaggc tggagtacag tggtgggatc	1200
tcageteact geaatetttg ceteetgggt teaagtgatt eteetgeett ageeteetga	1260
gtggctggga ttacaggtgc atgcccctat acccagctaa tttgtgtatt tttagtagag	1320
atggggtttc accatgttag ccaggctggt ctcaaactcc tgacctcagg tgatctgccc	1380
accycagtct cccaaagtgc tgggattaca ggcgtaaacc accacacctg gcaatgttat	1440
ctctatttaa tgaataagaa aagcattcaa agaggtggag ttaactagcc taagtttatg	1500
tagctaatca ggttcagaat ccaaatttaa acccagggct gcttaatccc aaattcaata	1560
ttcaaaqqaq qcagtgtgtt gtactggtca gacagaagaa agtgcacatg aataccatgc	1620
ttgctctaac actttgtcag gagtatttca tttgggtcca actcctctac tattcattca	1680
tgtaagccca gatgctggta agaaatggga aagctaagga ataggtaaca aaaaaaaatt	1740
aggaattaaa acagacaaac atgatttata caaaacctgg ccctacttta aaattctctc	1800
agaggggcaa attggccact cacccaaatt atgctaaaag atactttact tggcctttac	1860
cttgatttat tttaattttc taaagattaa gtataattta catacaatta aattatgtaa	1920
actagcttgc atacatacca tccagtgagt cttgacaaat gcatatacct tcttgaccta	1980
tcattttcca attgctcatt agtagtgtat agaaaccctg caaccttaat aaattaactt	2040 2100
attctagtag gatttttgtt tgttttcctt aggattctct acatacacaa tcacgttgtc	2160
taaaaataca ctttaactgt atccttccca atctgtgtat gccttttgct tgcttttct	2220
tgccatactg cataggctag aatctccagg aaaatgttgg agaagcagtg agagtagaca	2280
ttattgcccc attcctgatc ttagggtgaa aacattcagt ttttgactat taagtgtgat	2340
gttagctata aatgtttcat aggtgccctt tgtcagtttg agggagcttc cttccatttc	2400
tagtgtatta tttttacgaa gaataagtat tgaaatttgc caaatatgtt gtctccatct	2460
attgagataa tcatagtttt tcttctttat tctgttgatg tggtgtaata cactgattaa tttactcacg ttaaaccaac tttgcattcc tggaataaaa accctacttg gttgtgatgt	2520
tatccttctt atatattgat ggattcaagt tgctaatatt ttgttaagga tttttgcatc	2580
aatgtttaca agggatattg acctgtagtt ttattttcct gtaatgttta atgttttcca	2640
tgtttcctta tgcatattta aaagaaagat aagttggcca ggctggtctc gaactcctga	2700
cctcagatga tctgcccacc tcagcctccc aagatgctgg gattacaggt gtgagccacc	2760
aggcccagéc ttatgaactg aattctaaaa taagtttaaa aagcaaaatg caaaataata	2820
ttatattaaa tatacatatc tttttgtaaa aaaatgataa aaatatacat gattctgatc	2880
attigtttaa aaaagaaaca aagttaaggt aagccacaga ctaataaaat tgcttacata	2940
cagagagtgg gtgggaatgg gataaaaagg agaaaaggta ctgggctcgg tggtaatggt	3000
ggcagtggtg gtggtggtgg taaacacttc cctgagtatg cctttttgtg tggctgtaaa	3060
cactttttag agtcatgtta acccatttat gcctggggtt caacattttt tgtgtgaaaa	3120
atcagacctg ggcaatgacc ttgagcagta ggatacaaat aactctcaca agtttagcgt	3180
tccaataatg gaacactggg cataaattta atgttttaca tactcaaaaa atcaagttca	3240
cagggtgcca aaaatggaat acaaacagaa acaagttaac ctaactgtat tttaataaaa	3300
taaaggagag ctagcatggt ggcatgcacc cacagttcca actactcagg aggctccagt	3360
aggaggatca cttgagcaca ggcgtatgag gctggcctgg gcaacacagc aaatcctgtt	3420
ggtaattaat caataaaaat ggaagggtg gagggacagg cccaggtaac tttttttaa	3480
ccttttattt ttattttatt ttaaaaaaatt gtagattcac aggaaattgc aaaacctatt	3540

<212> DNA

```
agaagtagtg tatatccttt acactgtttt cccctagata caaggggaac tataactata
                                                                     3600
gtacaatatc acaaatagga aatttacatt ggtacaatcc cagactttat tcagttctac
                                                                     3660
                                                                     3720
ccattctcat gcactcattt gtgtgaagct ctttttagtt ctattacctg tgtagatttt
                                                                     3780
tatgaccgtc accgcagtca agatgtataa ctgttctggc cgggcgcggg ggctcacgcc
                                                                     3840
tgtaatccca gcactttggg aggccgagac tggcggatca cgaggtcagg agatcaagac
                                                                     3900
catcctggct aacacggtga aaccccgtct cttctaaaaa tacaaaaaat tagccgggtg
cggtggcggg cgcctgtagt cccagctact cgggaggctg aggcaggaga atggcgtgaa
                                                                     3960
                                                                     3992
cccgggaggc ggagcttgca gtgagcagag at
<210> 12790
<211> 84
<212> DNA
<213> Homo sapiens
<400> 12790
gtgagccgag atcgcgccac tgcactccag cctgggcaac agagcgagac tccgtctcaa
                                                                       60
                                                                       84
aaaaaaaaaa aatagaaaag aaaa
<210> 12791
<211> 766
<212> DNA
<213> Homo sapiens
<400> 12791
agaccattga gcctggcata tagtactcaa taaatacttg ttgaataaat aaatgaatag
                                                                       60
                                                                      120
cgactgtgat agggtaataa taaaatagta ataatcacta cctgtgttaa gggcttactc
                                                                      180
ttatgctaga cactgttcca aatcctttcc atgtttatgt ttctcctttt agtaggattg
tgtttatttc cattaaacat caccaagaaa aacaaaaaga aatcctgtat taacatttgc
                                                                      240
tgcatttcta aatgacattc tggccaaaaa ctatagttta tcttgacgta gatgattttt
                                                                      300
gcaatcaaga caagttatca ctcaaagacc actccaattt attgtccaat cctctggtaa
                                                                      360
caaatgtggt cagtaggagt tcttatacct ggcagataga caagggcaat ggttttcaaa
                                                                      420
cttttatctc aagaactcat tatacccata aaaactattg aagatcctgg gctgggcgtg
                                                                      480
                                                                      540
gtggctcact cctgtaatcc cagcactttg ggaggctgag gcaggcggat cacttgaggt
caggagttcg agaccagcct ggccaacatg gtggaacctc gtctctacta aaaataaaaa
                                                                      600
                                                                      660
attagttggg catggtggca catgcctgta attccagcta ctcgggaggc tgaggcagga
gaatcgcttg aacctgggag gcagaggttg caggagccga gatcgtgcca ctgcactcca
                                                                      720
gcctgggcaa cagagcaaga ccctgtctca aaaaaaaaa aaaaaa
                                                                      766
<210> 12792
<211> 520
<212> DNA
<213> Homo sapiens
<400> 12792
                                                                       60
gttgcacatt ttcgttctga ctctcttgtg gagttctctt acagccgttg tctttagtca
tccctcccc acccggagct gcgacaatgg cgttgcccag gaaacgttgc gcttccaggc
                                                                      120
cgctgacatc cagggaatga agtcttgcgt cacaagggga gcgacggcct tgtgcacgcg
                                                                      180
                                                                       240
ctctgtgcgg cctgagtaat ctgtcggccc tgagtaccac caggggcttt tgaatctttg
                                                                      300
ccaagggaga atggggaaga ttttgcaact tatcaataac ctattagcta atgttgctgg
                                                                      360
ggaggatctt cgactttgtg tgattattgt gctaaagttt caattaatca ccaggccctg
tggccctact tccaaaatac tatacatccc aaattcatcc actgttttgt gtctctacct
                                                                       420
gccattatcc tgttccaggc tcccagcatc tttcactggg atactgccgt aaccctgtaa
                                                                       480
                                                                       520
atagtetece tgettgteae cettgeecea etacaeteca
<210> 12793
 <211> 6271
```

<400> 12793 60 aggatgctca caactgtatt cctgagctgg acagtgagac agccatgttt tctgtctacg 120 atggacatgg aggtaacttt aacagatcat attggtaaca ttctaggacc ccaattccag 180 acgttccagg gcaagaacag gtccctttgt tcatttactt tccagggtct ggccctcatt atcatttcct gcgtggtgct gtttttctgt attctgtcat tcttttttcc cagtaggtac 240 300 tgtattggtt tataatctca ccaggacttg ttttaatcca aagagcctct atctttttt 360 atttttattt tttaaaattt ttaggctggg cacgcggtag gtcacacctg taatcccggc acagtggatc acgaggtcag gagttcgaga ccagcctgac caatatggtg aaaccccatc 420 480 tctactaaaa atacaaaaat tagctgggcg tagtggtggg cgcctgtggt cccagctgct cggaaggctg aggcaggaga atcgcttgaa cctgggaggt ggaggttgca gtgagccaag 540 accatgccac tgcactccag cctgggcaac agagcaagac tcttgtctta aaaaacaaaa 600 aagtgtaccc agttgagctg attctttatc tttttttcac tggagaacta agtatacagg 660 tgagaaaaga cgagatattt atacccgaga gaattgatgg tgaaatccat ttttttggat 720 cagaacttcc ccaaacagtg tccttcaaat agggttcagg ggtgctaaga tatttatccc 780 ctcaaccctt ggggttcact ccagtatggc atataaatat tgtatcactt tctatgtgtg 840 gggagcagtg ctccaggtga ccttccttcc tttccttcta ggggaggaag ttgccttgta 900 960 ctgtgccaaa tatcttcctg atatcatcaa agatcagaag gcctacaagg aaggcaagct acagaaggtc tgtctgctta caccgcccat tcctcacttg tgtaggcttt tcccttgttc 1020 tctagccctt gggcttttcc tttctttttg tcctctagct gctgctgctt atttactctt 1080 gaagaattct gttcctaaaa cgagcttatt ggccgccttt tagacttgcc ttattattcc 1200 taggcctctg agctgttttt atctgtgagt gtctcttagt gtggtggctc acactcttaa 1260 tttgtattcc atccttgtgc tcaggattgt atatagggag ttcattttgt actagtctta 1320 gactattttg cttatattca ggctttagaa gatgccttct tggctattga cgccaaattg accactgaag aagtcattaa agagctggca cagattgcag ggcgacccac tgaggatgaa 1380 gatgaaaaag aaaaagtagc tgatgaagat gatggtgagt gtggcatccc ttgtttgagg 1440 1500 ggaaatcagc attttaagaa atattcttta atattactta tcaattctaa gataggatgg 1560 ctttctaggg acctggggag tccttatgtt aaagaaacct atgatgttct cctgcattgt atgtggttat gaaaaggagg gagagaatta tcttcgttga gtggcatctg agctgtaagc 1620 1680 attgtatata cattatcttt tgtcattgtg atggggtctt cctggttcct gctagtattt 1740 atgtgctttt ttttcccctc aagactggag cagttattag ccccaatagc caatcattaa gcctaaatcc taattcacag tagcattgtg ggcttcctgg atcctcagcc agaatagggt 1800 ttttacaact taacaataaa aaatgagacg tcagagggga agtatagtaa ctagtgttgt 1860 tttgattaag aaggggatga aacacaaaaa ccaaaagaag tctgtggagg aggaggagct 1920 1980 agggcatgtt cttctgagac ttgagcgaga ggaaccttgg gagtgggagg ttgtggggaa 2040 gttagaggct gcaagggctg ttgaggtagt gagagggacg gatcccatga ggagtctggc atgggggctc tgatttagcc tcttccctgc agtggacaat gaggaggctg cactgctgca 2100 tgaagaggct accatgacta ttgaagagct gctgacacgc tacgggcaga actgtcacaa 2160 2220 gggccctccc cacagcaaat ctggaggtgg gacaggcgag gaaccagggt cccagggcct 2280 caatggggag gcaggacctg aggactcaac tagggaaact ccttcacaag aaaatggccc cacagccaag gcctacacag gcttttcctc caactcggaa cgtgggactg aggcaggcca 2340 agttggtgag cctggcattc ccactggtga ggctgggcct tcctgctctt cagcctctga 2400 caagctgcct cgagttgcta agtccaagtt ctttgaggac agtgaggatg agtcagatga 2460 ggcggaggaa gaagaggaag acagtgaggt aagggcctgt gagggcaggc agatgctgaa 2520 gttgcagaga ggtcctgttt ggttgccgtc tgtagttttc aactctcttt ccttctccta 2580 ttttgacatc atcccccaag acccactgta ttctaagctt tagtcttgaa ttcattgagc 2640 tccatcatca caggtaccat ttgccttttt acctcttcct ttgttggtac tataacaagc 2700 2760 agatctagtt ctggcttttc agagtctgtc tcctagagag agaacaagga gatagttgtt accttggcta gttgactgtt ttcttctctg gaaaatttat tttctggcca cagtgcctga 2820 aagatatttt tggctggcag cccttgcctt gtcctgggct ttttgctagt gactgctaag 2880 cccagttcag gatgtcagtt gtactcatgc tagccctttc catccccca attttcatga 2940 ccatatactt gtatctttca gtgttttgag gacctgtgtt cagtcaggac ctcttgattc 3000 3060 tgagtatgag ctgtggggag ggaggggatc atcccagtct cagcagtctg ggatcctccc cctggcagga atgcagcgag gaagaggatg gctacagcag tgaggaggca gagaatgagg 3120 aagatgagga tgacaccgag gaggctgaag aggacgatga agaagaagaa gaagagatga 3180 3240 tggtgccagg gatggaaggc aaagaggagg tgtgtgggga aggggagcaa tgagtcttga 3300 aaagccacaa ggcaggtgtg aatcccctaa ttttgatttt gagacaggga tccccctgat actttaggat ggaagtaata gtcatgggga tttattctgc aaggggaatg agatggtaag 3360 cctttggggt tgaattatct aaaaacaagg gagagggagt gtgctgctgt ctctagaaag 3420 atgaaatgtg tgcttctcct gtttgttaaa gctcttttgg gggtcccagt gaaagcaagc 3480

```
ataggtgaac gatcaggagc acatcagtga ggaacgcatg ttcagaagcc cccatgatgc
                                                                     3540
                                                                     3600
tccttttctt cctcttaagc ctggctctga cagtggtaca acagcggtgg tggccctgat
                                                                     3660
acgagggaag cagttgattg tagccaacgc aggagactct cgctgtgtgg tatctgaggc
                                                                     3720
tggcaaagct ttagacatgt cctatgatca caaaccagag gatgaagtag aactagcacg
                                                                     3780
catcaagaat gctggtggca aggtcaccat ggatgggcga gtcaacgggg gcctcaacct
                                                                     3840
ctccagagcc attggtaagg gccaagaaac tgggaaagac ttctagggtc tttctctctg
tcccagacta cctagtagca aactttaatc ttcctagtgc ttgtgccttt caaagcactt
                                                                     3900
taatatctac tacctctgtt cttatatttc tgtgaaataa ctaagatggg tagaggtatc
                                                                     3960
attatacata ggtatcatta tacccatctt atgtaacatt tgaatgatga aaaagacctg
                                                                     4020
tgagtgccgg gcgtggtggc tcacgcctgt aatcccagca ctttgggagg ctgaggctgg
                                                                     4080
                                                                     4140
tggatcgcct gaggtcagga gttcgaggcc agcctggcca acatggtgaa accccatctc
                                                                     4200
tactaaaaaa aaaaaaaat acaaaaatta gctgggcatg gtagtgcaag cctgtaatcc
cagctactca ggaggctgag gcaggagaac cgcttgaatc cgggaggcgg aggttgtagt
                                                                     4260
gagccgagat cgtgccatta cactccagcc tgggctacaa gagtgaaact ccgtctcaaa
                                                                     4320
aaaaaaaaaa caaaaaagac ttaaaaataaa aagaccagtg agtgactttc ttaaggttca
                                                                     4380
gcagtctggt ggcagggttg aaactagaaa aactaggact taggactcag ttccccattc
                                                                     4440
cactagatta tggaactttg taaagaaggg aaatgaatgg caaggtttga cctgccacaa
                                                                     4500
acacaagtct gtgggaagta tccaaactgc tcatcaacca ttcctttact ccaggggacc
                                                                     4560
                                                                     4620
acttctataa gagaaacaag aacctgccac ctgaggaaca gatgatttca gcccttcctg
                                                                     4680
acatcaaggt gctgactctc actgacgacc atgaattcat ggtcattgcc tgtgatggca
tctggtgagc actggcagaa tgccctaaat tcccctttct gcagcatgtc ttctcttata
                                                                     4740
ggactcaggg cacctctagg attagagcct aggcagacct aggcctcttg gtgggtgaag
                                                                     4800
                                                                     4860
agcacccaga ctaaggcaga gctgagaatt tctgtagtta tttacactgg cctgggccac
                                                                     4920
cacctctgtc catactcctc tacgctgcct tagtgagact ggaagattct gactgttgtt
                                                                     4980
cttgacccca ggaatgtgat gagcagccag gaagttgtag atttcattca atcaaagatc
                                                                     5040
agccagcgtg atgaaaatgg ggagcttcgg ttattgtcat ccattgtgga agaggtgagt
accagggtgg agaagagag gtgtctggtc tgcacagcca gggttcactc ttttaatctg
                                                                     5100
                                                                     5160
agctaagtcg gcaatctggg agcattatca gtaattgctg acagacgcta aaccccgact
                                                                     5220
ccaaagttcc accttctgtc atttccctga cttagcctta tgccttatgg actagcaggt
gggccgttgt gtgatacctc ttgcccattc ctctcctacc accctgactc agcaagccag
                                                                     5280
                                                                     5340
ccctcttgtg ggactgtaga ttcctggcaa ggtgttcaaa ccctgtggct gagctacccc
                                                                     5400
catccctttc ttagctgctg gatcagtgcc tggcaccaga cacttctggg gatggtacag
ggtgtgacaa catgacctgc atcatcattt gcttcaagcc ccgaaacaca gcagagctcc
                                                                     5460
                                                                     5520
agccagagag tggcaagcga aaactagagg aggtgctctc tactgagggg gctgaagaaa
atggcaacag cgacaagaag aagaaggcca agcgagacta gcagtcatcc agacccctgc
                                                                     5580
                                                                     5640
ccacctagac tgttttctga gccctccgga cctgagactg agttttgtct ttttccttta
                                                                     5700
gccttagcag tgggtatgag gtgtgcaggg ggagctgggt ggcttcactc cgcccattcc
                                                                     5760
aaagagggct ctccctccac actgcagccg ggagcctctg ctgtccttcc cagccgcctc
                                                                     5820
tgctcctcgg gctcatcacc ggttctgtgc ctgtgctctg ttgtgttgga gggaaggact
                                                                     5880
ggcggttctg gtttttactc tgtgaacttt atttaaggac attcttttt attggcggct
                                                                     5940
ccatggccct cggccgcttg cacccgctct ctgttgtaca ctttcaatca acactttttc
                                                                     6000
agactaaagg ccaaaaccta atcgtacgca tcgtgtcctt ttttttctgc tgccgtggcc
cccgacttgg tcccatctgt agcatgtggc gagcccccat gtgagtgtgt gcgtgtgctc
                                                                     6060
gtgtgtgtcc tgcgcgtgta taggagagcc cagagcgagc tgctggtagg ccggcctggc
                                                                     6120
                                                                     6180
gggcgtcgcg gctgcccctc gcccctcct gcagccagaa atgatctagt tcccccaggg
acaggttggg accggtctgg ctggcctgaa gcctggagtc gggcaggacg cctcctgcgc
                                                                      6240
                                                                      6271
tgctccctgg ccggctcccc gctgccgctg a
<210> 12794
<211> 9266
<212> DNA
<213> Homo sapiens
<400> 12794
gcggccgcag ccggaggcgc gtcggctgga gccggtcacg atgccccgaa ggaagcaaag
                                                                       60
                                                                       120
ccacccgcag cccgtgaaat gcgagggggt caaaggtcag gggtcagggg ccttgagggg
agaggagcgg gggtggggtc agtggagtgg gctcaggtca gggtggaggg ggactcctga
                                                                       180
gggatgaagt gggcgatcca gactcctagc ttcccaccga ggcactaagg gaatcagagt
                                                                       240
gggtcagcga gtacgggaag tgtggtccac gagggctggt tcctgaggga gaatccacaa
                                                                       300
gcccctccc ctcttcagtg gatactgaag actccctcga cgaaggaccc ggggccctgg
                                                                       360
```

```
420
tattggagag tgatttgcta ctaggccagg atctggagtt tgaggaggaa gaggaagagg
                                                                     480
aggaaggcga cggcaacagt gaccagctca tgggcttcga gagagactcg gaaggtgggt
tttcgggtct tggttaagga ttagcggccg ctggagaccc cagcccttca ggaggcaggt
                                                                     540
taggtgaaca gaacaccatt teetgeeaca acegaggget ggtttagttt acatttgage
                                                                     600
tagatgactt catttgttta atggtccaat cacttccatc actttgttga ggtgaagttc
                                                                     660
                                                                     720
tgaggcctgg tcaaaggtga taggaatagg agggtgggtg aatcacatgg agcaactgat
taaaagtaaa tgccctgtct ctctccctag cccattcctt atgtgtattt acttttaaga
                                                                     780
                                                                     840
900
ctccctttca cctgcagcgt aagctccttt tgtattgaga ggttttagtt tctgtcttta
                                                                     960
tecttecatg tecetettee etgtgatett ageateacee taccetaatt tgetgeacta
                                                                    1020
cccatccact tatgcaagat gttttttgaa agtcattgag gggatccatg taaatatctg
ttctttaggc aggcaagtgg tattacatgc attactttca ttgtctccac ttccctccaa
                                                                    1080
attttgcctc agagataggt tttattttat atcagctcct tactaaaagg ggccttagca
                                                                    1140
atagagetta gaaaaaggte ttgggggete tetecettte gtatttttae tttettgtet
                                                                    1200
caagaattaa tttcattatg gattcatttc agtctgtgat ccactgtgag cccttgatcc
                                                                    1260
                                                                    1320
ttgaccattg agggaaacta gatacaggtc aattctacca tcactagatt agtccagtgt
                                                                    1380
aagaggtaga caattcatgt tgaattttct ggaattactg caggggagac cttgattcct
                                                                    1440
aggagggaac taaagggatc atcaaagcta agggtggagc caagcaagtg gggagaccat
                                                                    1500
aagtgaaaag gggagagttt ggagcctgat cctaccctat gctgatgtct cttcttatgt
ctatttcacc aggagactct ctgggggcca ggcctgggct tccctatggg ctgagcgacg
                                                                    1560
atgagtctgg gggcggccgg gcactaagtg cggagagtga agttgaggag ccagccaggg
                                                                    1620
gtccagggga ggccaggggt gagaggccag gcccagcctg ccagctgtgt ggggggccga
                                                                    1680
                                                                    1740
caggtgaggg gccgtgttgt ggggcaggag ggccgggtgg ggggccctgc tgccccacg
gctactgtac tcatgccgcc tctgcacctt cgtgtcccac tactcgagcc acctgaagcg
                                                                    1800
gcacatgcag acacacagcg gagagaagcc gttccgctgt ggccgctgcc cctacgcctc
                                                                    1860
agcccagctc gtcaacctga cacgacatac ccgcacccac actggcgaga agccctaccg
                                                                    1920
ctgtccccac tgcccctttg cctgcagcag cctgggcaac ctgaggcggc atcagcgtac
                                                                    1980
ccacgcaggg cccccactc ctccctgccc gacctgtggc ttccgctgct gtactccacg
                                                                    2040
accagcccgg cctcccagtc ccacagagca ggagggggcg ggccccggcg acctgaaggt
                                                                    2100
aagacacacc agggaccaaa gatcttggga catgggtggc tgaccctagg aatgcttgga
                                                                    2160
ttggattcat agcccaggtc tttgtcccca cagatgctct gctccttcca gatttgagcc
                                                                    2220
tccatgtgcc accaggtgtg ccagtttcct gccagactgt gggcagctgc ggggtgaagg
                                                                    2280
                                                                    2340
ggagggcctc tgcgggactg gatcagaacc actgccagag ctgctattcc cttggacctg
                                                                    2400
ccggggctgt ggacaagagc tggaggaggg tgagggtagt cggctgggag ctgccatgtg
                                                                    2460
tgggcgctgc atgcgaggag aggctggagg gggtgccagt ggggggccca cacgctgtac
                                                                    2520
aaaggetttg eetgtageet etgeeeettt gecaeteaet ateeeaacea eetggeeegg
cacatgaaga cacacagtgg tgagaagccc ttccgctgcg cccgctgtcc ttatgcctct
                                                                    2580
                                                                    2640
gctcatctgg ataacctgaa acggcaccag cgcgtccata caggagagaa gccctacaag
                                                                    2700
tgcccctct gcccttatgc ctgtggcaat ctggccaacc tcaagcgtca tggtcgcatc
                                                                    2760
cactctggtg acaaaccttt tcggtgtagc ctttgcaact acagctgcaa ccagagcatg
                                                                    2820
aacctcaaac gtcacatgct gcggcacaca ggcgagaagc ccttccgctg tgccacctgc
                                                                    2880
gcctatacca cgggccactg ggacaactac aagcgccacc agaaggtgca tggccacggt
ggggcaggag ggcctggtct ctctgcctct gagggctggg ccccacctca tagcccaccc
                                                                     2940
                                                                     3000
totgttttga gctctcgggg cccaccagcc ctggggactg ctggcagccg ggctgtccac
                                                                     3060
acagactcat cctgaactag gtccttcttc cccatgtttt atacagacgg accagaagcc
                                                                     3120
acctttttct cccccgctgg ccaggggctc cacacagact aacgtaggca ctataaggac
cagcccaacc ccatgggcgg gggggcccat atggaccagg ggaccttgcc ttgactgagg
                                                                    3180
cacttcacga gctcagtgag aagggccctg tattcacctc cactgccccc aggggctgtg
                                                                     3240
gacaaaccgg ctgggggact gcccagcctc ccacctgttt atttaactta tttcagtgct
                                                                     3300
                                                                     3360
ttataataaa ggaaacacta acaaagccat gtctatgctg aattggcaat ggcaggcaat
                                                                     3420
ttggccttac ccttagcata gtagtccatg ctgtgatggg ggaagcaggg gcagtgagag
                                                                     3480
ggaaccagag gtaggcagca gtcaggctga gtttaatgat ggggaactgg gccagaccaa
                                                                     3540
acacagacct ctgcccatcc ccttggcctt tgcgatggct ccaagaggcc agaagcggcc
agaggagata tggttcctcc ccaaggcagg cagccatggt cccttagact ttgtgcaaaa
                                                                     3600
tactaaatgc taatttggca tcgagggcca gctctgaaaa gagaaggggc aatcctctgt
                                                                     3660
gcagccagcc caggggacaa ggaaaggtag gatacgaggc ccctggccaa gagaaaaggg
                                                                     3720
gtaggtagga aagaagaagg aaaagacccc tccgccccta gcatggggga cacaggcaca
                                                                     3780
                                                                     3840
gggcaagttt ctgtaaattc ctctggggta gagggcagac atccaagcag tggagattac
                                                                     3900
agatcctcat ctccaatgcc ctcgaaggcg aaattgccgt ggacatcact ggcactggca
 tctgtgctgg gactgccaat tccccgcaag ctcacggcac tcagcttact ctgtaacaaa
                                                                     3960
ggcagggtgg ggtcagagat cttgggcgtg caagatcccc caacaaacag caacctcacc
                                                                     4020
```

4080 aacgctggaa ctcactgaga gtttgaccat agactcccgg gtggcatcag gtgactcctg gggaagaaga ggcagaggtg tcagaaactc actaggagag gtgaggcagg gctgagagcc 4140 agggttctga ccaggaggta atacttacaa gcagtggtgg ggacttcact gcttgctggc 4200 tgtctgagcg tctcagagta cccccaccc gccggcgcag catctgggga cagacacaag 4260 gtgccggtga gggcaggatc acttcccctc cctctcaaga caagcctcac atctaggaca 4320 aaaggcaagg ggagcacacc tgctcactgc tcagtccaca cttgctgcct accttcctga 4380 tactgccgcc agatttcttc accatcagtt catcaaccat ggactgcaag cagatgctca 4440 tcatgatagc ctgagggcaa gaagagtgtc cagcttgatg agagtggtca ctctgagccc 4500 agcaccacta atgcctccca tattgagtac tggaaactct acactttaag gtgctccaga 4560 4620 ggagggctga gggtaggttc acacctgggg gctagtgatg gtgacccact gtagccggtc cttgctcatg aggtattcaa aagccagttc caggcgcacc tcaccccggc cccggcctgg 4680 gctgctcgtg cttccactgg gcaatggtac ctgggagagg aaggggaatt cggttgagtt 4740 cactctgacc aacctgtctg gctccctgac ccgctgcagc ccatacctaa gctcaaggct 4800 4860 tgccgggccc ccaacccagg cccttccccc tcctaacccg actcacagag gaggtgaccc 4920 gccagcatcg catgcgggtg acccggaagg agccttctcg gagttgctgg ccaggcaggc ggagctgcag gctgagctca ctgttgcccg cgctcaccac cacaggacag tccttttctg 4980 5040 ggaagtcagc cacacaggca tcaaagcgca agtagccata gtgccgcagc gtctgggcca 5100 gtctcaggaa ctgaaaaatg gtcatcacat gggggtagat taggagggag aatggggcag 5160 ctcagaaaaa gcaaccccgg tcgggcgcgg tggctcatgc ctataatccc agcactttag 5220 gaggcagagg cagacagatc acaaggtcag gagctcaaga ccatcctggc taacatggtg 5280 aaaccctgtc tctcccaaaa atacaaaaaa ttagccgggc gtcgtggcgg gtgcctgtag tcccagctac tcgggaggct gaggcgggag aatggcatga atctgagagg cagagcttgc 5340 agtgagccaa gatcgcgcca ctgcaagccc ttagaggaag acagagagga ggcagggctc 5400 acctccttct tggagacttt ctcttgcaga gatttgagtt gccggtgctg ttccttggtg 5460 5520 accaagatcc acccacgctc aatatctgat accgtctata gtagagacaa ggggcaggca 5580 gtaggaggtc ccagtcagca atccaaggaa agcgtctacc attacctctg tccagcctga cccctagccc cacacttgag cgacctctct gcagtaagtc cttgatcttg tcagcttaat 5640 5700 aaaagtaggg agagtagata ttgtgccagc agcactgata gtattctagg aacttcccca 5760 caaattggga acaaagacac gacagcagtt ttcttgggag agtgagtcac ccgttatttt cttcagggga agggttctga ggcagctcca agctcacctg agcataaagc aggttcaggc 5820 caacccggtt ctccatgaca tcgtcatcat aggcagagtc ccaataactg tgaggccaag 5880 gggtggaaag gggtaatggg gctaagctgg gttaaggcaa gaggtagaat ggaaaatggg 5940 caaaacagga gcaatctgga actatcaggg gctaatggta tagtgggagg aagcttggga 6000 6060 ggcctggcag aaacacccag cactacaccc ccttgtccag attattctgt ctcaatatgt ggcccaataa tccaatccag cacagcacct cccaccctc cccttccagg cccagccctg 6120 6180 acctcttcct tagcacaatc ttatactctt gactccgaag gctggtgaca gacacataag 6240 tagtgagatt taaaggaagg gaaatcaaga aagaagtgcc ctgaggcaat gttcattctg 6300 6360 ggggtggggg tggggagtta ggggggctgc aaactctact gaagtaccct tgtactgcag 6420 tcaagtccag agaaactcac aagaaaaggc tccatcctct ttttctcgaa ctaagaatag 6480 actaaagtat ccaatcaagt catctggaag atccagcttt gcagctacag cctggggata 6540 gggatagaag tacageteat catactgget ggttecaate attetecaag eecaggaeee caggatgtag gggaagaagg ggcagtgctg aacaagcgcc tcacctccag gacatcctca 6600 gtctgatctg aagttagcac gttgaccaga actttctgcc cgttgctgag cagcacttcc 6660 6720 aaggacactt cctctgtggg gacctgctgt gtctcctgtt gtgagcacac atggggatgg gaagcactgc cttgtccctt gccttgacct atgcccaact ctatttctag gtcccttgtg 6780 6840 tgtctttatt ctcagctgct taaatatagg ctgtgatttc tttgatttca taagaataga agttccattc cattaaaaaa gatgactcct ctgttattaa gatgacatgg cctggctggg 6900 6960 tgtggtggct cacacccgta atcccagcac tttgggaggc caaggcgggt ggatcacctg 7020 aggtcaggag ttcgagacca gccaggccaa cacggcaaaa ccccgtctcc actaaaaata 7080 caaaaatgag ccggacatgg tggcaggcgc ctgtaattct agctacttgg gaggctgagg 7140 caggagaatc gcttgaatcc gggaggcgga gattgcagtg agctgagatc gcaccactgc actccagcct gtgcaaaaga gcaagactct gtctcaaaaa aataaaagac atgaccttcc 7200 7260 agcaaggtcc tttccttaaa tcttggtccc acccaaagcc ctacctgttg tgcccgacgc aggaaactgt tgaaagtctc gctgctccca agcaatgggt cttgccgaac tacgaggaca 7320 7380 agagaacatt attacaggaa cttagcactc actcttggct ccccagtcct cctctcagta 7440 ggttcccccg accccatttc ctgggctgat ggtggcctgc cacatccccc agctggcctc 7500 acctcactca ctgtttgcat aaattcttca cctgccccac ccttggctgc catctaggtg 7560 agtccagtct atagaactag ggaaataaca atgatgttaa tctaaagcac atcagataca aattaagttc tctccactga tattaagact agtgttatac tagtatttct catagatgtt 7620 agtgcccaaa ttgttttgct agtacacaga gttacacatc ctcgtacact atttactttg 7680

```
ctaactgcat aacagatcaa acaagagcct tcctagatct agaaattaaa tcaggccctt
                                                                     7740
                                                                     7800
ccacagaacc agctgttttt aagtctctcc ccatagtcct caatatagtc aacctagttt
                                                                     7860
cctgcaacca ctcaccagct tgcatgtact tctctaactg ctctctcctc tgttctacct
cagcaggagt cagagagaaa agcttctttg gggggaatgc aggaagcaca ttggccccat
                                                                     7920
                                                                     7980
actccttccg aagctattta gagaaagaga tacaaccctt cacataaaca cagaaaatga
                                                                     8040
gatgaggcaa tctacatatg ctcataatgt tctcttgggt gcccctccct tccctcagtc
cctgttcccc tgtctaccct ggtcatctga gaaacaattc ctttgacagc ggtagcacct
                                                                     8100
caagggagct gtcctagata taagttgtgc tctattttac tgtgtacaag tcagccctc
                                                                     8160
cacagtacgg ggaggatttg tactgggcca ggacctatag ggagcccctt gaccacctag
                                                                     8220
caagactgtt cactgaaccc ttaaaggaag gaaagggctt tataaagtgc acagttaata
                                                                     8280
gctaagtctg ttcacaaaat atcttaggac ttaaagggac tttgcagatc aaagaatcca
                                                                     8340
                                                                     8400
tctttcagtt gtagaaactg aggcccaaag aaatcagttt ctacaggcct catgcctgta
atctcagcat tttgggaggc aaggtgggtg gatcacctga ggtcaggagt ttgagaccag
                                                                     8460
cctggccaac atagtgaaac ccctctctac taaaaataca aaaattagct gggtgtggcg
                                                                     8520
gcagccgcct gtaatcccag ctactcagga ggctgaggaa ggagaatcgc ttgaacccag
                                                                     8580
gaggcagagg ttgcagtgag ccgagatgtg ccactgcact ccagcctggg caacaagaga
                                                                     8640
                                                                     8700
gaaactccgt cccaaaaaaa gatatcaggt aacttgttca gggttgcaca actaattatc
                                                                     8760
agtggagctc tactgagtta aatagagttt aagatctggt aaggaaggag gagaaacatt
                                                                     8820
gcatcacaga tacataacga taattggcac agctaaacac actgaaatga gccgaagaac
                                                                     8880
acaaaaggaa atcggtgaat cgtttgtata agcagggaaa agaatttcaa gttgccgctc
agatgacaga aggaatgtgc tttgacagcc tgggtggagg tagtgggggg aggggttggt
                                                                     8940
                                                                     9000
ttgtccatgc aggggtaaag gctactagag cagtaagact ggacagaaaa ccagaatata
                                                                     9060
agaacaggaa ggagcagttg ttgcgcggac attaagcttc ttagggagtt cccggaaatg
tcagacaaga taaaccaggg ccctaccctg tggcagtgat taaaggggaa ctacagccta
                                                                     9120
cgggaacaag aagagcgggt aaagggagac actgatgtcc acgtgtaggg aagggcttga
                                                                     9180
                                                                     9240
agctgtctca aggcaggggt gctagtccca cctgctcgtg cagccccagg agctggctgt
                                                                     9266
agcgcacccg acagtgcagg actcca
<210> 12795
<211> 27289
<212> DNA
<213> Homo sapiens
<400> 12795
```

60 aacgctgtcc aactgggcgt acgagtttga caagtgggcc ccctccgtgg tgaaggtgtc ttacaaggta ggtcacagcc actgaggttt cctctcttgc tacggaggtg caggcggtgg 120 180 tgggcaggac gtccacacat acctctggac agtgaacctg agaatgctgg gtctccagtc 240 gcatggagtc tccaggacag cctggaactc cagtcacatg gatccgggag tttggactgg 300 gcagggacag ggcagattag ctcactgggg aggagacagg agtgagcatg gtggccagca 360 ctcagaggcc agctcaggcg cctgagatgg ggacccagga agaggggagc ctgtcagcca 420 ccaggaatgt gcagatggcg gtgcaggctg cgtggttccc tcaggccccg gccgccgctg 480 gcctgcactg cttcctcttc cccctgcagc gcgtgttctg cgtggtgagg tctggggacg cgccagcggc cctgccagcc cctttcccca ctacccctgt gaggacgagc cctcccgccg 540 tgtcactggg cagttgcagg gggtgcctgt gcccctcttg ccacctggcc acccggctcc 600 660 aaaagccgag ctgtgcatcc tgcttccctt gcagggatcc ccagcagcaa gacgggcctt 720 tgtcccccag ctccggagtg ggaagttcaa cgtcttgctg acgacgtacg agtacatcat 780 caaagacaag cacatcctcg ccaaggtaac gtgtccctgt gggaaatgcc aggccatggg ccgagtgctc acacgtgggt cacgctgccc gtctcctcca aagcccctac aagtttcttc 840 900 ccggagtccc acctgcatgt gcgtgaagac agctgccctg tgtaggggaa aggcctaggt 960 gggggcgacc tcaggtttac ctccctaact gtctccaggc aggccctgag tcaggcccag 1020 aagctggggc catctacaca gcatgcgctc tgcctcctct cgggccttct gcccagagag 1080 cctcagcacc aaggegtete etgaccegee tacagagtee ecatggggee ttggccagae 1140 cagtettgte etectgtete attgeettgg eegteeetee etggggeeet ggetteteae 1200 cacaggccat gggctgagat tcagcatgtg ggggagagct cgagggccaa ataccatgac 1260 tgcctgctgg ccttgggcag ctggttcggg ctgttctgtg agggtcctac tgtcctggaa 1320 gcctcttctg ggacgaaact gtgaagggag tcccagcgtg gccatgactg agaatacggc 1380 ccagatagaa aacagacata gccctctgcc tccaaaaact catgttcctc atttgaggag 1440 gggtaaagat gtacctggtc tcacccctaa acatccagct gagtgagtgt tgaacagtag 1500 agagtttttt gcgttttggt tttttttttt ttgagaccga gtctcgctct gttgcccatg ctggagtgca gtgatgtgat cacagctcac tgcaggcctg acctcctggc ctcaagcgat 1560

						1.000
cctcccacct	caccctcctg	agtagctggg	actacaggtg	tgcgccacca	ctcccagcta	1620
acttttttaa	atttatttt	tatggagatg	gggtcttgct	gtactgccca	ggctggtctc	1680
aaactcctgg	cctcaaggaa	tcctctcgcc	ttggcctcac	aaagcactgg	gcaactgtgt	1740
ctggcctaac	agtagagttc	ttgacccagg	tatgggggga	tggaggagct	gtttatgggt	1800
ggctccgcct	ctcagtgcat	ggctggagtg	acagtactgg	aatactgggg	ctgtgaactg	1860
ggtgttttct	tttcttttc	tcttctttt	tttttttatt	gagacagagt	ctcacagctg	1920
tcacccaggc	tggagtgcag	tggagcgatc	tcagctcact	gcaacaacct	ctgcctcctg	1980
ggttcaagtg	attctcctgc	ctcagccttc	cgaggactgg	gtgctttatc	ccggagccaa	2040
caaqqaqqa	aactgaggcc	cagggagctg	ggtatcccac	gtgcaggctc	ttacctcagg	2100
tccatacttc	aggtgcctcc	tttgtggctc	acccctgctg	actccttaca	aagccaggcc	2160
attaacaaac	acaggaacca	ggctctgaaa	ccccgtgctc	ccctgccagt	ggctcagttg	2220
atotaatcac	cctgcagtgg	gagtgctctt	tgagtgcggc	cactgcgccc	cctcccgacc	2280
cacataaccc	tgtatgtagt	ggcgctggcc	cctaccccat	ggggcccaca	ttctgaacca	2340
caggetgete	attagaaatg	taccgtcacc	aacccagttc	ccctgagacc	ctccacacca	2400
gcaggacaag	tccccagtc	agcaagatgt	gtcttctgcc	agaacgtgct	cggcattttt	2460
ctatactata	gattcatatg	tgtgattttg	cagggaagcc	agattgcttt	tttgcaattt	2520
gcattgttca	cctgccaata	atcatagagt	cacgggcctg	tctctgccca	aggcttgcaa	2580
gaggggggt	tgtgtggctc	caactcggtg	agtcagcccc	ggggcaggac	gtcaggcctg	2640
tactatacaa	ccagctgcgc	tcttccacct	agageettee	tggctgctgg	gcgcagagtg	2700
agagattata	cccatgtgcc	gggccacctg	ctaccccta	ccctgattgc	ccactctggg	2760
ggagactett	ccgttggaag	tacatgattg	tagacgaagg	tcaccgcatg	aagaaccacc	2820
actocaaget	gacgcaggtg	ctcaacacgc	actatataac	accccaccac	ctgctgctga	2880
caaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	gctgcagaac	aagetteeeg	agctctgggc	gctgctcaac	ttcctgctgc	2940
cgggcacacc	caagagctgc	accaccttca	agcagtggtt	taacgcaccc	tttgccatga	3000
gggggggaaaa	ggtgggtttg	cccacctata	cccatactaa	coattccaga	tacaactaac	3060
tttagtagtt	ggaacgtgtt	dadcaccad	tacagetgge	tagacctata	ctaaatacct	3120
citigotiggit	tgcatctgca	tagaacaaaa	gagggggg	acccaaggct	ggggcagcca	3180
ggrgagagre	aggggagcag	accadagate	ataataataa	atctcggaat	actcaaaaca	3240
tatatagaga	tatgctccag	ggcagaggcc	astaatasaa	aagatggccc	tgaggcagct	3300
tetetgaeee	aagcgtgtgg	gracagagra	tagagggagg	aggatggtat	aggcccttt	3360
gtgggaeege	agaactcacc	atagaaaaa	tagaggeege	acttggaaga	ttccagttag	3420
aggtgccctc	tggtcaggtt	atatattag	ttatttaa	acceggaaga	aaccaatata	3480
cggggccaca	tgggtggcac	astasaaaaa	actataacat	adageceage	tcattgatga	3540
tctcaatgtc	tgggtggcac	ataggtag	ctagaggtac	ttactattaa	aggttgaaac	3600
gtggtcccac	accagcactg actgtgttc	attectigage	atttaaataa	ccadatacta	aagtotooc	3660
tgtgggacag	aggttacctc	gaagtgaggg	gcccagcag	actagacece	ccccttctt	3720
agaactacag	aggitacete	gaagtgcccc	gcccagcacg	cctcatacat	gagttccctg	3780
cccaccttag	acaggiccag	ggcagctggg	cttctcatca	cassaccasa	gcattcccca	3840
ccctctcggc	tgetggteaa	ggcagagact	tagactccc	adacccac	actaagggcc	3900
aagcctcgtg	ataaaggagt	tatasattta	tagacccccg	agaacctcta	actaagggcc	3960
aggatetgat	gctatagttt	recattle	agtage	ttttccttta	actttttaa	4020
gccagggaag	caatagaaga	adagttttgg	gagagtag	caccatagaa	acttttttaa	4080
ttaaaacatt	ttaaaagtta	attattagta	gaggagcagg	agaactaca	ggtcagggtt	4140
tctttcacct	ggttecaece	aggergaarg	agagteeet	ggggcccccg	gtggcagagc	4200
cctccctgag	aatcaccege	tataageeee	argragataa	atttatatta	gcagcgctcc	4260
tggcatgagc	ttggcgtggg	graggicigi	ggacactcca	grangagea	ctcgtggaga	4320
agcagcatgc	cegetgeegg	gggtetttet	ggrgaggcac	agggagtaga	gtgctctggg	4380
tactgcggtt	ccatgtccca	ggaattacat	ggagggaacc	agattettaaaa	agtttcctaa	4440
ggaagagggt	geeetgeetg	geteecayaa	agcacaaagc	aggeegaaaa	gccacgtgcc	4500
aagggcaaga	tcaccccagg	ggacecegic	gasttagtta	testatetta	accttctagt	4560
gagacctctg	tegeceteet	ttggaggtaa	egettyette	catatacaca	ggggcttcca	4620
ggtggacctg	aatgaggagg	aaaccattct	catcatccgg	cgttttccaca	aagtgctgcg	4680
gcccttcttg	ctccgacgac	tcaagaagga	agreyaggee	cagetycecy	aaaaggtgat	4740
ggagttttga	ggggagccac	cagtgaagca	geeteacgig	ggggccccc	ccagggctgg	4800
gcgtgctcag	ggcctctccc	cacagtccca	ggeetgeeet	. gg.caa.cca	gcttgggggt	4860
ggcgatgacg	ccactgggtc	tgtaaagccc	gractacta	tagaaatta	tgaaaagcac	4920
tcataggctc	acatagctca	caataggtta	gagcacaaaa	teceactice	tgtcaggggg	4920
ccaggtgcct	gtgcgggctc	tcctggccac	accaggaggg	geegtggget	tggggttgcc	5040
ccccggcccc	ccatcatggc	totgggtttt	caaggcctgc	: tgcagccaca	cccctgggcc	5100
cagttcccac	agcaagaccc	: atggactcgg	ggteeeegge	: cycayttytt	cctcttggct	5160
ctttgtttcc	tggctggctg	tagagaggco	: cccagaagat	. ggclggggg	ccctttctgg	5220
cccagtaacc	ctctggtatc	: tctgcctggt	getteetete	: allgcccagg	, tctcccctct	JEZU

5280 tctccccagc tgtgagggtc tcctcaccca caccccagtg tgctctggtc agagctcata 5340 tgacagggcc gagggggtca gagctgggtt cggatggggg gagtcaggcc tcaagccacc ttgggccctc gtgagcatta tgtgtcccct gcaggtggag tacgtcatca agtgcgacat 5400 gtctgcgctg cagcgagtgc tctaccgcca catgcaggcc aagggcgtgc tgctgactga 5460 5520 tggctccgag aaggacaaga aggtgggccc cagagtcccc caactgcatt ccccactggg 5580 tgtccaaggc cggcagcgtg gcaggcagag cagagcgtgc tctgaccatc gggtcatgat ctggtcatga tccccagggc atctggccag ccctggttat gatggctggt ggcttgtgtc 5640 aggacacact gactcagctg ccagtggctt ctcctttgcc tatgaaacac tggctccttc 5700 5760 tgcaattggc agcctgggcc cagcactaac cccagcaggg ttagagtgtt ctagaatgcc ccccttctct gttattaagt gaaaggaagg gagcgggctg tctcctgcag gggctgctct 5820 gagaatccca ggccccaggc cccacctgcc tggctctcct caccagcagt gaaattatcc 5880 5940 tcccaggaaa tgcaccagac cccttgattc tgcccccaag gccttgacct cggcctggct 6000 teccegagae gttgtgtetg tgeceettet eccetgaget gageageagt gtgtteeeta gtccattccc agcccagage atgcacccc cgccccgccc ccacctcctt cctcatcctg 6060 gagcccaggg agccctgagt catggctcac ccggctgagg ccctcttgcc cagctgagac 6120 cctctaggga cccccacagt aacagtgccc agaacaaagc tggcatcaca aagcatcggg 6180 gactctgcct cagccctttg ccagtcttgt ttccgtcccg tcctgctggc cctgtccctg 6240 6300 ccatctgccc tctgctgtgc caggcagtca tttgtttccc agggcttgtt gggggcctcc 6360 gggcctccag cctgccatct cctcactccc aattgctgtg ccaaaagcca ctcttcccca 6420 caggagggca agaccccatt tgggtccctc tcatctgcct tccagggcaa aggcggcacc 6480 aagaccctga tgaacaccat catgcagctg cggaagatct gcaaccaccc ctacatgttc 6540 cagcacatcg aggtgagccc gccgcggctg ggacggctca ggccctgctg tctgctgagc 6600 tcctaggcag agctggcttc tcctcgacag ctctttaaaa acagactcga atattttcat 6660 taggtaatgc ctgtacatct gtctctcatt tggtcttcgc ttcaccagtg cttacgggaa 6720 gaatcccagc agttagggcg caacgtgcga taggaatata gggccctgaa agcttgccct 6780 cagagagcag gagcgtttgg agacttctct ggggatgtgt ccccccacag tggggtcctg 6840 6900 ctgcgtctct ttggctcact ggcttttctc acgttgcggg gcgtcaagag tcaccaccgt 6960 cttcagtgaa gtgtggggga gtcagaaccc tttttggtca tggtggcttt gagaatctgg gttcttagaa gcatgcatat gttcgtgttt cttggtgtaa agtgtcaggg tcgttggaga 7020 ccgcctgctg ccccgagagc ccctggggct gtctcagcac cctgagcgtg gctgtggccc 7080 catgacgtcc tcgtgcattc agggtgtgaa gagtgctgta tgggatgtcc tttccttcgt 7140 7200 tggaggagtg tgagggaaag gatgtcagtg gactaagaaa gatggttttg gcatctgtgt ctggtctcag agccgccgtg ggcccgtgcc gagcacacag tgtgggggct ttgtcctctg 7260 7320 agcacgagcg gtgtgtgcgg accgcagcgg ggcccggtgg cctgctcctg cctgtcactg acccctctct ccttgccttg caggagtcct tttccgagca cttggggttc actggcggca 7380 7440 ttgtccaagg gtgagaagct tcccaactgg atggggtggg caggtggtcc acccagaggt tttctgtcgt tttgttggct ttattgctgc tgttatgttg tccaatttca aaggcagaaa 7500 7560 attagaaaat acagaagaat ccaaagcaaa taatacaaat cttttttttt tttttttt 7620 gaggtggagt tttgctcttg ttgcccaggc tggagtgcag tgacacaatc tcggctcact 7680 gcaacctctg cctcctgggt tcaaatgatt ctcctgcctc agcctcccga gtagctggga 7740 ttaccggcac ctgccaccac ccagctaatt ttttgtattt ttagtagaga tggggtttca 7800 ccatgttgac caggctgatc ttgaactcct gacctcaagt gatccacccg ccttggcctc ccaaagtgct ggaattacag gtgtgagcca ccgcgcccgg ccccattata caaatcttta 7860 gtgcttggag agctgaccac tattaacccc aagagacagg attcctgagg cagacctggc 7920 ttacagatcc cactetgeeg cetecaaget etgtgaetet agacagettt ettaaeetet 7980 ctgagcctaa actctgctca ctagtacaga ggcactcttt acatcatgtg ggtgttttct 8040 atagcaccct ttgtaagggg cagcccagac teetttaage eeetaatgga tgtggatget 8100 gtgtctagat tttcaccatt gcaaagaacc ttgctaaaag cattcttcca gctaaagcct 8160 ccattcaatt cccctggggt agtaagccat ttgcaagaag agaggcgcct aatgaaaaca 8220 8280 tcacaaattc tttttgatgt gtttttttat actgagttgt ggaacagggt cctgtacacc 8340 tggcttcaag gctgggaggc ctggcttgga catgtggtca gccatatcac gtcgtccccc 8400 tgccagcctc agtgtccaca tctacaacac ttggggtttg gctggagaga acatgagaag 8460 ccgaggtggc ccttccttct gggtctagca gagcatgggt gtctccagtg tggcatttgc tcctggggct tctttatcgg gcaaggggac aaggtctggc ttcccggagc atccctgttc 8520 8580 cagccccgtg ttgtgccggc catgtgactc acagctcctc tcattttcat gagtgtctgg 8640 gtttgacgag aaatacatgt gccaccctgg tgatacgcct ccccagcgag ggtggccggg 8700 cttatttcag ttgggggaaa tggctttgct gaagctttgg gtgggtgacg tctgcttagg 8760 atgcatgtct gtgcccttga acccggcgcc tggcctggag gcgggcgatg cacctcctgc cttacctgcc tgcagggttc caggtttaac atcctgcgcc ttctctcctg cctcctccac 8820 actccagget ggacctgtac cgagcctcgg gtaaatttga gcttcttgat agaattcttc 8880

ccaaactccg	agcaaccaac	cacaaagtgc	tgctgttctg	ccaaatgacc	tccctcatga	8940
ccatcatgga	agattacttt	gcgtatcgcg	gctttaaata	cctcaggctt	gatggtgagt	9000
atgagccagt	gaggcgtttc	ttacagggtt	ttgttgttgt	ggctgccaca	gaagctcctc	9060
actggcattc	cctcctgtga	ggcagggtga	ggcccaggcg	ctctgggtcc	agtggccaga	9120
gtgggcctag	ccacaggctg	agcatcttgg	gcactcggca	ctgggacagg	ccgtggattg	9180
gacgccgggt	gtcctgactc	ctaggctgac	agtctttcca	cgacaatgct	gggcgcactg	9240
gggaagggt	gccctgtgca	cttttagctg	gaagtgacag	aattccatac	catgtggaca	9300
caggaaagaa	agcaccaata	ggcttacata	gctctaaccc	caggaggtta	aacatccttc	9360
aggcacagct	ggatccaggc	atgcaggtga	tattggagag	acttttctcc	agctctttgc	9420
tetacettet	tccatcttgg	cttcctttcc	acctgctcag	tgtccccaac	aaaggcaggt	9480
cccagactag	ctctcattta	gctgctgtga	gccgcatgcc	catccctggg	ccattcgtag	9540
cagcccagtg	actgccacct	tgccacaggt	caggcctgga	cctggaatca	gactctgtgg	9600
tgagcacgga	gggagggaag	caagcactgc	caggcaggag	cagcagctgc	cgtagagagg	9660
ctctcagccc	aaccccctgc	cctgcggtcc	ctgatgggaa	aggtcaccgc	ctgtgtttct	9720
acacctacct	gccccagcac	acgggagctc	agggaggaga	ggctgtgaga	tgccgacagg	9780
gcacgtgaga	catgtctgtc	agtcccagtg	ggtcagggag	ccctggagtg	agttcttcgt	9840
gggagttact	agaactgggc	ttacgagaaa	cacgagcatg	agctgctgag	acagacacgg	9900
ctcagccagt	ttgttgttcc	ctacacgacc	tcccagagcc	tttgttgaag	ctcctgtgca	9960
aggtctgtct	cacagcagga	caccccagac	ctccataccc	cttgtcccgt	tgatcacttg	10020
gacctgtgtt	tgctgggcca	acctgcccag	gtgccacccg	gagtgtgccc	tgtgtgtccc	10080
tccaaactgc	aggtcctccc	cggggttctg	tccaggacca	ctctacagac	acgagtctgt	10140
tqcaggggtc	tccccggctt	gccttcttcc	ttgggggctt	cccactttca	gctttgaggc	10200
tqaaaaccaa	aatccttcag	ggtcctcatg	gccgggccac	ccccaccct	ttcctctcct	10260
acggtctctc	cagcggcttc	tcccgtcctc	gagagggcca	aggcttcctg	agggccatcc	10320
catctatatc	gtgtccctga	ctccccagg	agagagcctg	gttcccaccc	atcccagtgc	10380
ccttctgcct	actccataag	gacaaggact	ttggtcagtt	gaactacaga	tgtgtcctct	10440
gcatgtgatg	tggtcatggc	cacagggcca	gagaatccat	tgcgagtaga	ggaagggtag	10500
gageteagtg	aagtctcctg	agactgcatc	tcccatgggt	gggctggcat	ctgggagccg	10560
aataacccct	cacctcagcc	cctcctccga	gctggagtag	caggggcaca	tctggtgcct	10620
gagagagggt	gggacggcag	gtggatggcc	aggctactgt	gggcttctgc	accgtgcctg	10680
ggcatgtgta	ggctggtggc	aggaaatggc	cagtttttat	ttcttcttt	ttttgagacg	10740
gagtttcact	cttgttgccc	aggctggagt	gcagtggcat	gatctcagct	cactgcaacc	10800
tccqccgcct	ggattcaagc	gattctcctg	cctcatcctc	cctggtatct	gggattacag	10860
gcgcccgcca	ctacgcccag	ctaattttct	tgtattttta	gtagagacgg	ggtttcacca	10920
tgttggccag	gctggtctcg	aactcctgtc	ctcaggcgat	ccacccacct	cagcctccca	10980
aaqtgttggg	attacaggca	tgagtcaccg	cgcccggcct	gccagttttt	atttcatcac	11040
caaaatgact	tcagtgttca	ggggcacctc	tgtccgaact	cccagcagcg	cagggagtgt	11100
tgacattgcc	ttaatgccca	caacgctgag	ggcatcgtgg	gttgtcaccc	aggagacctg	11160
ctctggctcc	ttgacttggg	ttttctgggg	catggggaca	ctgatcctgc	cagaaaggac	11220
acgagccccc	tttataaggt	ctccatgctt	ttaccgtaga	agattctctt	tgtgaaccac	11280
aaaacttttt	gagacagggc	tgaaggcagg	tgcacccaca	gtcactgtcc	acccacccc	11340
aggtcccttg	tgttgcgagc	ggcggtgttg	ccggcattgg	eegetgtgte	ttccgctccc	11400 11460
catggaatgg	cacagggtag	agtagaggag	agaatccagg	getgtggtgg	tggtggctgt	11520
gctgacgctg	gacgctgtgg	cctagctgtg	ggctgggtgc	tggaetetgt	gctccaggcc	11580
cacctcctct	agttctccca	gcggggcctg	ttttcatttc	tgggatgtgt	ggagagacgt	11640
tttgtggtga	aacactggaa	atccagttat	tegeeagtgg	eccacaggee	cgtgtggaga	11700
gtgcggagcc	agggatctgg	ggatgctggc	aggtgctgat	eetgeteetg	ctctcagaag	11760
caggtgttcc	ttggtgtccc	cactctaccc	etgaggteae	testestes	ctgttctcct	11820
ctgtgcccgt	caggaaccac	gaaggcggag	gaccggggca	racataraa	aaccttcaac	11820
gagcccggct	ctgagtactt	catcttcctg	eteageacee	gggctggggg	gctcggcctg	11940
aacctccagt	cggcagacac	tgtgatcatt	tttgacagcg	actggaatec	tcaccaggta	12000
aaagcgggcc	gggccccagg	tcgaggagaa	ggaagggggt	geetyeaaaa	cctcgaggag	12060
acggccctgg	cttgagggtc	ctccagcctc	tanagana	angagagag	caggageegg	12120
gaggagctgc	acccatatct	ccataggtca	ccagggagaa	aayayycygg	gtcctcctgt	12120
ttcccaaaat	acaaacagcc	tttccctctg	arryggaaag	caytytataa	gccatccgtc	12240
ggtttggttt	ttcttaaatc	ctggaatggc	acceatgagg	ayytyyaaay atatasaasa	tatcctgatc	12300
aatctgcgcc	gtcactgtgg	ggeggeeeet	geagegegee	cattteatta	acacactggc	12360
gcttgttcag	acacaattgg	gygtadactc	catgodaett	. lyttiactic	ctcctcttgt atgctgttac	12420
ccataacca	. cgcacccccc	atgaggccccg	cttttctctc	tatttcatta	taagactgat	12480
acayotada	tattttaaa	atotaaacac	: cagtgacagt	caggagtee	: ttttcccttc	12540
aagttittat	. cycliciad	acycaaacac	2232340436		_	

ctctccaacc gtgctctctt ctgagcctct gccagcccat ctgccttcgc acatgtatgt actgagatta acacagatgc ggcgtggcct agcatgtgcc tcttccacca agcagtgggt 12720 gtcaaccgcc gagtgcacat cggaagctac ccagccatct aatcggccac caggcgtccc ggcagatggc cacccctgga cgtctgctct caaactctgg ttggcaggca tccgtctttt 12840 ctgttgatca gcctggtcac caacccagca gggtccctct ttctctcaga gtgcttgtgc 12900 aaacacccta ggtctgcgca gccctcagac atggggtcgc tccaccccag acattgtcct cttcgtgttc tggttgctac tgccaaagtg gtttcactcc tacgctgggg tgtgaatgta 12960 ccctgccctt ccctgcagcg tgagggcagc agcgttctca gtgtgtaaat tgtcgcttgt 13020 13080 ctgatgggtg aatgccgtgg tggtcactgg tggccccttt tacgatcagg ctggggtgta gcttctgccc agaccctggt gaccagccag tttcttagga ggtggttgag ttgtgtgtcc 13140 ccgttggcag gccggcagca ggcggaagct gcacctcagg gctgggggcg cgttggggag 13200 ggctggccct gccaggaagt gtgctgacag ggcaggaggg ctgagcggca gacacaaggc 13260 actcctggtc cccaccagct gtggcctctg ccaccccatg ggtgccagtc ttaagtttca 13320 13380 gagcatcact ggtactcacc ctggtcctgc agctcctggg cccagagaca ggatttcgtg ttagcctcct cgtactgtgc tggggtgatg ataaaactaa caacccaggc tggacgcagt ggctcacacc cgaaatccca acattttggg aggccgaggt gggtggatca actgaggtca 13500 ggagttcgag accagcctgg ccaacatggc gaaaccctgt ctctactaaa aatacaaaaa ttagccaggc atggtggtgc atgcctgtag ccccagctac tcaggaagct gaggcagaaa aatcgcttga acttcgggag gcagaggttg cagtgagctg agatcgcacc actgcactcc 13740 cacggcacct gcattgttgg gagctaactg caccagtcac tgggccacac tcctggtgct tattcactca ttcgaggtat gcagtagcca cgggttgggc cccatgtagg ctgagggagt 13860 tttgaggctc acagaggtga gacctggttc cggttctgtg tgcactgtga gagtggcagg 13920 gcccacagcc aaaccaagca ctgccacaac acggccgagc ttcggccccc tgttgtaaat ggtgctcgac tgtgtaggtc cacgctgtgg ggagctgtgc cgctgccacg ggagctgctt gagaatataa tcccctgggg ggttggtgct ttcttcccga atatctgtgg ggtcccaata 14100 14160 aggtagaagg tggcacttct ggaggaacgt gatgagagtc cccttccccc gagggacaca 14220 tggcggccca ggctccacca gctctgtttt catgcggcgg caggtcaggc tgggcagaat 14280 tgtcaggccg agggtggcac gcacagcaca cctctccagc tagtgtcaga ggccaccttc ccttttatga cctcctgggc tcctttggga ctgactggca cctcttcccc caggacctgc 14340 aagcgcagga ccgagcccac cgcatcgggc agcagaacga ggtgcgtgtg ctccgcctct 14400 gcaccgtcaa cagcgtggag gagaagatcc tagctgcagc caagtacaag ctcaacgtgg 14460 accagaaggt gatccaggcc ggcatgttcg accagaagtc ctccagccat gagcggcgcg 14520 ccttcctgca ggccatcctg gagcacgagg agcaggatga ggtgagccca gcaccggccc 14580 14640 cgacccctcc ccagcgtgaa tggtggacgc gtgagcggct ttcatttttg ttttttacc 14700 ttttttgcac tcttattttt tttgcatccc tttggagtaa agggagtgtg ggctgaacgg aaagaggatg agtacttgct ttttctttga agtggttttt ttttctaaac tgctggtgaa 14760 agacgccgga ttgacagccc tggagactga agtcctctat ttatccacag agcagacact 14820 gcagcacggg cagcggcagt gccagcttcg cccacactgc ccctccgcca gcgggcgtca 14880 accccgactt ggaggagcca cctctaaagg tgagaggggt agttcagtct ccatgcccat 14940 15000 tcaatcctcg gcttctcggc tgagacggcc agcaagggcc ctggtcccac ggagcgtgcg 15060 tgtgcgtgtg cgtgtgtgtg cctttcgctg ccgtgtgggt ccccatccac cgcagccgtg 15120 ccgggaccac cagctcattc ccacggacgc cgccgctcgc ctctgagctc ggccgccgcc cacccggcc cctcctcagc ggcactgaca gtttgcaatc ttataggagg aagacgaggt 15180 gcccgacgac gagaccgtca accagatgat cgcccggcac gaggaggagt ttgatctgtt 15240 catggtaagc gctgcaggct ggatggggca gttcaggcat cccactctgc tgccaccagg 15300 agcaaagcag acgtcctagt gcccatggtg gtatccctag caggtcaggg agccagggac 15360 agctcacagt gcagcccact cccacctcca gactgacccg tcttccaccc ccagtctcct 15420 gaggatggca teggagggeg agatgeacae eeageettet geatgtgaee egagaeetge 15480 cccaccagct ctgttttcta acgggctctc cagggcttca tgcactccct ttcagaggga 15540 gttcgcccta tccaaggcca agggactgac caggccttca gtcgcagagc ccccttgccc 15600 ctgggtggga aacaggaaat aagccaccca agcaggggcc ccttggcccg caggcctcat 15660 gcctccacca acgctgggcc acgcagctgc tgcccccctg ctggggtctg cagccctctt 15720 15780 gtgcaacctt ccatcttttc gagtttcctc tgcctcctga ggcagagcct ctagtcaggg tctgacggag ccaggccagg tcagccactg aaaaatcgag agctactgtt taactctcgc 15840 agcagcgtgg agccccacgg gcagagaaag gcccttctga actctcggtg ttctggctct 15900 agcgtgcccc tggtgcctgc atgctgatgc ctctcccgtt gcctccctgc ccaccagcgc 15960 atggacctgg accgcaggcg cgaggaggcc cgcaacccca agcggaagcc gcgcctcatg 16020 gaggaggacg agctcccctc gtggatcatc aaggacgacg cggaggtgga gcggctgacc 16080 16140 tgtgaggagg aggaggagaa gatgttegge egtggeteee geeacegeaa ggaggtggae tacagcgact cactgacgga gaagcagtgg ctcaaggtac atgctggaga ggcccagcag 16200 ctgccgcagg ccagcgccag gcagggctgg ggagacaaag ggcccaccgc caggactcag 16260 gcctgggtcc aaaatgcttt ccttgggcca ctcctggcca ggctccgcag gcagccgaga 16320 16380 gccttccgat gtgggccagg gatggtcagg tccttttggc tctgccttgg aatgcaagaa 16440 ggacccacgg ttcctgagca gctcaaaacc tgctgctggt tatggttggt ctttcaagta aaagggttta cctcttcccg aggttaaaaa tcatgttgct gatctcagtg gactgctggc tttcccagta cctgccagga gggaggcaca agggtgaatc atggactatt gaggcgccct gcaaagcgtt gcactgctgg ctgcaggcag cctcactttg ggcaagtccc cccccatgag 16620 16680 ctggggagac tcagtcatgg ggagggagga gagggcaagc ccccaagggc ctctgaacct ggcaggtgct gcacggggct ggcagttgct tgtggagctg acgtgagggc ccgttctcag 16740 16800 cagatggcag ctggccctgc aacagcagct gcagatgtct ttgagtcagt cgtgcggtgc tcctggggct tcacccgacc caactttccc agcccaaggc acactgtgac agatgcctgg 16860 16920 cactgatgtc ctcactgggg ttacggtgac agatcagacc ccttcccagc tcaggggctc tgagttatag agacgatgat tcagaatcca tccctgaagt tgtgtcataa aaatgtcctg 16980 aagcaataat teegagaagg caggtggeag ettttggeta tgeeatgeaa agtgeeacae 17040 17100 ccaggaaaga gccatgtggc ctagcccatg tggccaaaca gccccggttc cctcctggga cctcagcagc ccagactcat gagcttgcct gccaagctgt gcaccagagg gcgctgttga 17160 aacacaccag gagcccaggt gacagacagg ccatcctgtt ccccagccag cctcccaagc 17220 acagcgctcc aggacccaga agagaaaccc tgaaaagaca gtgtgagccc tgccacagac 17280 ctgtgtgaca gcagagctgt ttggctgctg tatgagtgtc accggccctg cattttttc 17340 ttttttaata aagacaaagt cttgctgtgt tacccaggct ggcctccagt tcctgggggc 17400 tcaagtgatc ctcacacctc agcctcctga gtagttcaga ctacaggtac acaccaacac 17460 gcctggctaa ttttaaattt tttgtaaagt gggggtctca ctgtgtcact caggctggtc 17520 17580 tcaaactcct gggctcaaac aatccacccg cctcggcctg cagagtagct gggattacga gcatgagcca cggtgcccag ctcagccctg catatttgag gcagtgagta ccttttaaat 17700 ttaagatcag ttcatacgtg gctgctctat gtacattttt ttctaggtgt aatttacata ccatacagtt caccettttg gggtatatga tacaatcate ttcagtgtat ccaagagttg 17760 17820 tgcatctctc accacagtcc attttagaac attctcatcg cccccaaaag aagccctgcc 17880 ccgatttgcc attcctggta attcatggat tctccccagc cccaggcaac cactgatgta ctttctgtcc atatagtttt acctgttctg ggcgtttcct gtcagtggag tcctacagcg tgggatgctt tggtgtcagg cttttttcac gcaatgtaac atgctgaccc atgatgcagc aggtgtgttg cattetttga tggtgaaata atcetgeete gtacagattt gteacatteg gtttttctgt ccattcttga tggacacttg ggttgtatcc actttcgggc tattacaaac 18120 aatactaccg tgaacattca cgtacacgtt tttgcgtgca cgcgtttctc tttaatatgt 18180 gatttctctt taatatctga tttctcttta atatgtgcct aggcgtagag ttgccggaac 18240 18300 aatgttagtt ctctatttaa ccttttgagg gaccccagcc tggtttcctt ggtggctacg 18360 ccagttcaca gttccaccag ctgtgtatga gaattcctct ttctctacat cctcagcaac ccttgctgtt ccctcgcccg ctgattctag ccatcccagc acgtatgaag tgccatctga 18420 gtgtggttgg atttgcattt ccctgatggc taatggtgtg gagtatctgt tcatatgctt 18480 cttggccctt tgtgtatcct ctagaaagag atgtctagtc acatcatcct ttacccaaat ttaaaatata tttatcttaa tattgaattg taagttattt acaagtgcct tatcagatat catttgtaaa tattttgttc cattctgcac attctctttt cgcttccgtg atatccgttg aagcacagaa gtgtttcatt gtacttacag tcgatttttc tttttcacct gtgccttggt 18720 gttgtatctg agaaaccatc gcctatccaa ggtcacgaag acttgcccct gtctttctc 18780 ctaggagggt tataatttga tctcttccat gtagatccat gtaagatcca ttttgagtta aattttatac atgatgtgag gtaggggtcc atcttcatcc atccaactgg aaatccagtt 18900 gtcccagcag catttgttga agagactatt ttttcccatt gagcccatct tattacacag 18960 tatattcaaa ttcacagttg tgaaaaatat tatacaaaac actgtctccc cactactgtt 19020 ggctgtggaa ttggcaccac ttttctggca gccatctgtt gccaagtgaa ctcaaagcct tcaaaatgct cctatggccg ccatcggaca tggccatgac tgtggcagcc taaagcaaca 19140 gaactatttt ctctgcattc tgggccagaa gtctgaaccc acggtgtggg cagggctgtg 19200 ttcctttcga ggccctagga gaggaccctt ccttggcttt tccagcttct gatggttcca 19260 gaagceteet ggettgggge agegteacce catetetgee tetgtettea tggggaette 19320 tcctctgtgt ccccttctgt gtcttttaag aacaattttt aaaacttaat cccaaaagta 19380 aagacctcat ttgcaaagaa ggtcccattc cgaggttcca ggtagacatg agtctggggg 19440 gcaccegceg etcegcetg ggtetgcagg gggeettete etggtgcete etgeetgetg 19500 tgccctccat gctgcttctt tgacccggtt gccttccatc ctcctgggcc cctcaggctc 19560 tcagcttccc atcttctcta agacatgtct gctccatcat tctggtgtct ctctctccc 19620 19680 teetteetgg cacetgacae gtttgttace ceaettgtgg ggtgttgetg tetgateace 19740 atcttccttc caagggtagg ggaaagggcc ctggctggtt caagtcacag ctctgtcctc agcgccaggc acagtgccca gctcactggc acagcctcag attccctgga cacctggctc 19800 cccggctgca ttttttacca ttgggataag ttattagtac cattgaaaat taatacctgg 19860 ggattctctt aatattgttc atattcatgt tcttctcagc agttttacca tgaggaatct 19920 gtcttaaaca atgtcagttg tcaatagcgt tatttaaaat agcaacaaca ataaaaaaag 19980 20040 gtggtcagac ctggcagctt gtgcctgtaa tcccagcact tggagaagcc aaagcggggg 20100 gatcatttca gctcaggagt ttgagaccag tctggccaaa atagcaagac ctttgtctct 20160 attaaaaaaa aaaatgccag gcacagtgac acatgcctgt aatcccaagc actttgggag gccgaggtgg gcagatcacc tgaggtcagg agctcaagac cagcctggcc aacatggcaa 20220 aaacccgttt ctactaaaaa tacaaaaatt agccaggcat ggtggtgggc acctgtcatc 20280 20340 ccagctactt gggaggctga gtcaggagaa tcactggaac ctaggagttg gagtttgtag 20400 tgagccaaga tcgcaccact gcactccagc ctgggcgaca gaatgagacc ctgtctctga aaaaaaggga aatgacctaa atgcccaaga acaaggggag gctaaattag ggcacgttgt 20460 gcactgaaac actaaacaga cattaaaaaa ttttgttgta gaaaattaca ggaaaagata 20520 20580 tccatgacac agccagcagt gtggcacgtg ggctacaatt ccagcgtggc cttcagttct 20640 gcacacgtgc gtcaaaggtg gggagagttc tggtggtggg tggcgctgag ggctgcacaa cactggggac gtgcctaatg cccctgaact gtgtactaaa acatggctgc tttggtaaat 20700 tttatgttat atatgattta taatatattt ttttaaatgc ccagctactc aggaggctaa 20760 gatgggaaga tcacttgagc ccaggagtta aagtccaacc agggcaatgt agcaagacca 20820 catgtctaag aaaatttaaa aatcggctgg gcgcggtggc tcacgcctgt aatcccagca 20880 ctttgagagg ccgacatggg tggatcacga ggttaagaga ttaagaccat cctggccaac 20940 atggtaaaac cctgtctcta ctaaaaatac caaaattagc tggacgtggt ggtgggcgcc 21000 21060 tgtagtccca gctactcagg agggtgaggg aggagaatcg cttgaaccag gaaggtggag gttgcagtga gctgagattg caccactgca ctccagcctg gtgacagagc gagactgcgt 21120 ctcaacaaca acaaaaaaga aaatttaaaa ataatttttc atacaaaaat tagccaggtg 21180 21240 tggtggcacg tacctgtaat cccaggtact tgggaggctg aagcaggaga attgcttgaa cccaggaggc ggaggttgca gtgagccgag attgcaccac tgcactccaa cctcggtgac 21300 21360 aagagcgaaa ctccgtctca aaaatataaa aataattttt aaaatgtctt aaaaaggccg ggtgtggtgg ctcacacctg taatcccagc actttgggag gccgaggcgg gcagatcaca 21420 21480 aggtcaagag tttgagacca tcctgaccaa catggtgaaa ccctgtctct actaaaaata caaaaattag ctaggcgtgg tggtttgcgc ctgtaatccc agctactcag gaggctgagg caggagagtt gcttgaaccc aggaggcgga ggttgcagtg agccaagatc atgccactgc actccagcct ggtgacagag tgagactccg tctccaaaaa aaaaaaaaa aaaatcttaa aaagaagaaa tagatggagg ccaggcccag tggcttatat ctgtaatcct agcactttgg gaggctaaga tgggagcact gcttgagacc aggagttcaa gaccagcctg ggcaatatta tgagaccccg tatctacaaa aaatttttt aattagctga gtgtggtgac acgtgcctgt agtcccagct acttaggagg ctgaggtggg aggatctctt gagccctggg agttcaagac tgcagtgagc tatgatggtg ccactgcact ccagcctggg caacaggtcg agaccctgtc tctaaaaata aataagtaaa taaaagaaat agatggggag agtgtggaac agaggtgtca 22020 acatcacctc cgggtgaagg gatttcagga gcacgttctt ttctgtacag agaagatagt tctttttttt tggtcaagaa attcaaccat tagtttttta aagacaagct tgggtggggt 22140 22200 gcctgctggg ggcagtgctg gtctttcact gcagcccagg caccccttga gagtcccagt gtgtgttatg ccccgagcca gtcaagctga agggagagcg ggtgcggggg ccctcctccg 22260 22320 tgtcccagcc cggcccctgg gattgcgtcg cggcctctgc ttgtcgacct gggtgctggc tgtcctattt tactactatt gaccctgaag gccatcgagg agggcacgct ggaggagatc gaagaggagg teeggeagaa gaaateatea eggaagegea agegagaeag egaegeegge 22500 tectecacee egaceaceag caceegeage egegacaagg acgaegagag caagaageag aagaagcgcg ggcggccgcc tgccgagaaa ctctccccta acccacccaa cctcaccaag 22560 aagatgaaga agattgtgga tgccgtgatc aagtacaagg acaggtaagc gaggaggcgg 22620 ggagggcggg ggctgtaggg gtccccgtgg gagcaggcct ggcatctgca ctctgactct 22680 gcacactcag gcttgggccg ctcactcttt cactcatcca caaacactga ctgaatctct 22740 gtgtctttga gcctggccct gaggaacatg ctttctggaa cagggaagca cacatgtatc 22800 tgcggtgatg agagggaatg tcacatgtgg tcgagaggag aggcaggggt gcgggtctcg 22860 gagaagggga cattgcagca gagccttgag agaggggagg ttggggagag tgcaccagca 22920 22980 gaggccacag caggcggaga ggctctgcca aagttgtggc ctggtggcct caagggatga ggtgggatga ggggttatat ggcagtaatg ggtgctgccc gtgtggccag gaggttgggg 23040 acaagaggct ggcatgtctg gagcagagaa agtggcagcc ctctcctgtc cttgcaccct 23100 cccaggctac ctgtgccatc tctgtgttgg tgagatggtg gccacactcc tgctctctgc 23160 caggecetge tecaageetg gagategetg teetcacaga catgteetat atacgaggea 23220 gcatgcggtt ccagctgtgg ccacggccca gcggcggatc ataacgtgtt ggtggatcat gagtgccatt tatatgtttt tcatttacta atatcctttt ccgtgagcga ctctatatgg gtaccattta aataagaaga aaggaatgtt ctcagcaact ccccagggag gcatgtgcac cttctgccag cccagggcag gtcacagagc tgggcaggag ccagcaaagg tgtaaggccc 23460 atgeetggee caggaeteae ceagtettee acteteeaag gtettattte actteetggt 23520 acacactggc cagtacggct gtccccgtaa tgggagggtt gtactgtttg attttaaata acagtttgct gttagtcatg aagcagagcg tgggggaatt gtatctgttg gaggggaaag tgaagggagc ccacatgcat ggtttggaga gaatcttacc aagtgtgaag ttttagagga tggtaacaat tggagtgcct aaattaatga gtcaaaatta ccgcgcaagg ccagctgtgg tggtccacac ctgtcagccc agcactttga gaggctgagg tgggaggatc acttgaggtc 23880 aggagtttga gaccagcatg gacaacatgg tgaaaaccca tctttactga aaataggaaa acaattacct gggcgtggtg gcacgctttt tgggaggctg agacaggaga atcacttgaa 23940 cccaggaagt ggaggttgct gtggaccaag attgcaccac tgcactccag ccttgggtga 24000 cagagcaaga cgcccactcc aaaaacaaaa tactgcttaa aaaggttctt ttagccagat gcggtggctc atgcctgtaa tcccagcact ttaggaggcc aaggcgggcg gatcacttga 24120 ggtcaggagt ttgaaaccag catggccaat atggcgaaac cccctctcta ctaaaactac aaaaattcgc cgagcgtagt ggtgcatgcc tgtaatccca gctactcggg aggctgaggt aggagaatct tgaagctggg aggcggaggt tgcagtgacc caagatcaca tcagtgcact 24300 ccagcctggg ggacagagtg agactccgtc tcaaaaagag aaaaaaagaa aggttctttt 24360 attattggaa gagaaacaga tgatgaagga aaggagacat attcaagttc aatgccagat 24420 ctgaaaatgt catgtgttgt cagtattgag aaaaaaatat atagactcta attcacaaac ctaactccaa ggctaagtcc tcaaagagga aagcaagtgg aggacttaag ttacttaaag tgcgggatac agctgcgggc agtagcacat gcctggggtc cccactactt gggaggctga ggtgggagga tcacttgagc acagcaggtc caggctacag tgagccatga tcacacagct gcactccatc ctgggtgatg gaatgagacc ctgtatctta aaaaaatgaa ataaatacag aatacttatt taaaacatgg gccaggtata gtggctcgtg taatcccagc actttgggag 24780 gctgaggtgg gcggatcact tgaagttagg agtttgagac cagtctggcc aacatggcaa 24900 aaccccatct ctacaaaaaa tacaaaaata gaaattaaac tggcatggtg atgcgtgctt 24960 gagctcccag ctcgggaggc tgggcacgag aatcgcttga acccagaagg cagagggtgc agtgagccaa gattgcacca ctgcactcca gcctgggtga cagagtgaga caatacctga 25080 aaaacaaaaa acaaaaacaa aaaaagggaa ttcgcagaaa tctaatgaca atgacagacc ctccccatgt tttatttcta atgataatct tgtgagggaa acttaacatt accaacctaa 25140 agaagaccct tgaagcgcag tggggaaagc acgggtgtct ccatcacact ggtctcctgg 25200 gtatccacgt agagaggatg agcctcgacc accccacac acgcacacac catgcacttg 25260 gatccacgtg acatggactg tggatgtaag aacgtgaaag gtaaaacaaa attctagaag 25320 aaagcacggg agaaaatctt catgagtagg catcgatttc ttccacggga gccaaaagcc 25380 actaatcaca aacaattgag aaattagacc tcactgaaat taataacatc tgtttattaa 25440 tggacacgct gatggagaca gtgaaaactc ctcatagatg aggaaaagac aacacaattt 25500 aaagctggac aagagccggg aacagacgcc tccttacaca ggacatccca ggactaatca 25560 atgtggggaa aggtgctcac gtcattgcat tagcatcaca acttcaagaa aatgctcgtt 25620 aaaaccagag tgacttgcac cagcacccgc cccagaacgg ccgaatgccc atcagtgctg 25680 25740 gcaagtctga agcagtctgg cctcacaccc tgcgtgtagg agtatgcagc tctttggcaa tctcttctgt tttgctttgt ttgtttttaa ccatcgaact gcagaagata atattttctg 25800 25860 aggeteagee tgtacatace etetgaceea geageetgea geeetegtte tacceaggag 25920 agctgagtgc atctgtccac accgacagac gtgtccatag ccactttggt cataatctcc 25980 caaaacaaga atcagcccag tgtccatcta caggggcatg gatcagtgga ggcctaatcg 26040 tacagggccc caaacagctg tgaaaacaga catagtactg ctacctggaa gaagcttaca ttttgttgag tgaaagaagc cagacactaa aaagggcata ctggccgggc acggtggctc 26100 acgcctgtaa tcccagcact ttgggaggcc gaggcgggcg gatcacgagg tcaggagatt 26160 gagaccatcc tggctaacat ggtgaaacac cgtctctact aaaaatacaa aaaattagcc 26220 gggtgtggtg gtgggcgcct gtagtcccag ctactcggga ggctgaggcg ggagaatggc 26280 26340 atgaacccag gaggcggagc ttgcagtgag ccgagaccgc gccacggcac tccagcctgg gcgacagagc ;gggactccgt ctaaaaaaaa aaagagggcc tactgtgtgc ctccagttct 26400 gtgagggtca gaagctgatc cacagtaatg gctgccaagc agtgcttacc ttgagagagg 26460 gaatagcagg aaagccacac gacgagcctt ctaggatact ggggatattc tctctataga 26520 26580 tctggatgtg tatatgatgt gtacattcac caaggtgtac acatgagata tgtacacttc tctgtattcc attacacctt ggtttttgaa aagacagaaa cagcatgctc agcttattaa 26640 26700 gaacctgaat attttcagac aaaaagtatg tctagtgtta gtccactttt tttttttt agttttagac tcacagagcc ctcttagggt catatttagt tgtatatcat ctgacaaaag 26760 agggaatggc tcacccagct gctacagtca gtcttgtagc ctttgtaaga tttgatgata 26820 26880 aatcatacaa taaattaaaa ctttcggctg ggcacagtgg ctcacgccca taatcccagc actttgggag gccgaggcgg aggatcactt gagcccagga gttcagatga gcctggccaa 26940 catagtgaga ctctgtctct atttaaaaaa aagaagaaaa aaaaagtctg ggtgtggtgg 27000 27060 ctcacgcctg taatcccagc actttgggag gctgaggcga gcggatcaca aggccaggag atcaagacca tgctggctaa cacagtgaaa ccccgtctct actaaaaata caaaaaatta 27120 gccaggcgtg gtggcgggcg cctgtagtcc cagatactcg agaggctgag gcaggagaat 27180

```
#
ul.
ħ.
```

```
<210> 12796
<211> 5088
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (5)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (6)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (7)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (8)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (10)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (11)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (12)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (13)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (14)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (15)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (16)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (17)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (18)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (19)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (20)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (21)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (22)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (23)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (24)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (25)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (26)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (27)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (28)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (29)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (30)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (31)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (32)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (33)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (34)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (35)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (36)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (37)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (38)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (39)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (40)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (41)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (42)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (43)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (44)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (45)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (46)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (47)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (48)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (49)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (50)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (51)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (52)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (53)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (54)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (55)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (56)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (57)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (58)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (59)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (60)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (61)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (62)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (63)
 <223> n equals a,t,g, or c
 <220>
```

```
<221> SITE
<222> (64)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (65)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (66)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (67)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (68)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (69)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (70)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (71)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (72)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (73)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (74)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (75)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (76)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (77)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (78)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (79)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (80)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (81)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (82)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (83)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (84)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (85)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (86)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (87)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (88)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (89)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (90)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (91)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (92)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (93)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (94)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (95)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (96)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (97)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (98)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (99)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (100)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (101)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (102)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (103)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (104)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (105)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (106)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (107)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (108)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (109)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (110)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (111)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (112)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (113)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (114)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (115)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (116)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (117)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (118)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (119)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (120)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (121)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (122)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (123)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (124)
 <223> n equals a,t,g, or c
 <220>
```

```
<221> SITE
<222> (125)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (126)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (127)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (128)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (129)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (130)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (131)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (132)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (133)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (134)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (135)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (136)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (150)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (151)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (152)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (153)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (154)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (155)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (156)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (157)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (158)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (159)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (160)
 <223> n equals a,t,g, or c
 <220>
<221> SITE
<222> (161)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (162)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (163)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (164)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (165)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (166)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (167)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (168)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (169)
<223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (170)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (171)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (172)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (173)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (174)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (175)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (176)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (177)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (178)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (179)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (180)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (181)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (182)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (183)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (184)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (185)
 <223> n equals a,t,g, or c
 <220>
```

```
<221> SITE
<222> (186)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (187)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (188)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (189)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (190)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (191)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (192)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (193)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (194)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (195)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (196)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (197)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (211)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (212)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (213)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (214)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (215)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (216)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (217)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (218)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (219)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (220)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (221)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (222)
 <223> n equals a,t,g, or c
```

```
<220>
                <221> SITE
                <222> (223)
                 <223> n equals a,t,g, or c
                 <220>
                 <221> SITE
                 <222> (224)
                 <223> n equals a,t,g, or c
                 <220>
                 <221> SITE
                 <222> (225)
                 <223> n equals a,t,g, or c
                 <220>
                  <221> SITE
                  <222> (226)
                  <223> n equals a,t,g, or c
                 <220>
The state of the s
                  <221> SITE
                  <222> (227)
                  <223> n equals a,t,g, or c
                  <220>
                   <221> SITE
                   <222> (228)
W
                   <223> n equals a,t,g, or c
<220>
T.
                   <221> SITE
<222> (229)
                    <223> n equals a,t,g, or c
n.
                    <220>
                    <221> SITE
                    <222> (230)
                    <223> n equals a,t,g, or c
                    <220>
                    <221> SITE
                    <222> (231)
                    <223> n equals a,t,g, or c
                    <220>
                     <221> SITE
                     <222> (232)
                     <223> n equals a,t,g, or c
                     <220>
                     <221> SITE
                     <222> (233)
                     <223> n equals a,t,g, or c
                     <220>
                      <221> SITE
                      <222> (234)
                      <223> n equals a,t,g, or c
```

```
<221> SITE
<222> (247)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (248)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (249)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (250)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (251)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (252)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (253)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (254)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (255)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (256)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (257)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (258)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (259)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (260)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (261)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (262)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (263)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (264)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (265)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (266)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (267)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (268)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (269)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (270)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (271)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (272)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (273)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (274)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (275)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (276)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (277)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (278)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (279)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (280)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (281)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (282)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (283)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (284)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (285)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (286)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (287)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (288)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (289)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (290)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (291)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (292)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (293)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (294)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (295)
 <223> n equals a,t,g, or c
```

```
<221> SITE
    <222> (296)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (297)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (298)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (299)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
Ī
    <222> (300)
    <223> n equals a,t,g, or c
<220>
    <221> SITE
    <222> (301)
    <223> n equals a,t,g, or c
    <220>
<221> SITE
<222> (302)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (303)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (304)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (3943)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (3944)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (3945)
     <223> n equals a,t,g, or c
```

<220>

<220>

```
<221> SITE
<222> (3946)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3947)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3948)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3949)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3950)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3951)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3952)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (3953)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3954)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3955)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3956)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3957)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (3958)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3959)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3960)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3961)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3962)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3963)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3964)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (3965)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3966)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3967)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3968)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3969)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3970)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3971)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3972)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3973)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3974)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3975)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3976)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3977)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (3978)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3979)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3980)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3981)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3982)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (3983)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3984)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3985)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3986)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3987)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3988)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (3989)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3990)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3991)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3992)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3993)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (3994)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (3995)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3996)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3997)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3998)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (3999)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4000)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4001)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4002)
<223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4003)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4004)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4005)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4006)
 <223> n equals a,t,g, or c
 <220>
```

```
<221> SITE
<222> (4007)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4008)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4009)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4010)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4011)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4012)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4013)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4014)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4015)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4016)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4017)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4018)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (4019)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4020)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4021)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4022)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4023)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4024)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4025)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4026)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4027)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4028)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4029)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4030)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4031)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4032)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4033)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4034)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4035)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4036)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4037)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4038)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4039)
<223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4040)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4041)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4042)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4043)
 <223> n equals a,t,g, or c
```

```
ųj.
Q.
The first time that the
##
```

```
<220>
<221> SITE
<222> (4044)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4045)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4046)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4047)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4048)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4049)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4050)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4051)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4052)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4053)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4054)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4055)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4056)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4057)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4058)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4059)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4060)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4061)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4062)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4063)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4064)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4065)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4066)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4067)
 <223> n equals a,t,g, or c
 <220>
```

```
<223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (4081)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (4082)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (4083)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (4084)
    <223> n equals a,t,g, or c
<220>
    <221> SITE
     <222> (4085)
     <223> n equals a,t,g, or c
     <220>
11
     <221> SITE
     <222> (4086)
     <223> n equals a,t,g, or c
W.
     <220>
n.
     <221> SITE
     <222> (4087)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4088)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4089)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4090)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4091)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
```

<222> (4092)

<222> (4080)

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4093)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4094)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4095)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4096)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4097)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4098)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4099)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4100)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4101)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4102)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4103)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4104)
 <223> n equals a,t,g, or c
```

```
<220>
                 <221> SITE
                 <222> (4105)
                 <223> n equals a,t,g, or c
                 <220>
                 <221> SITE
                  <222> (4106)
                 <223> n equals a,t,g, or c
                 <220>
                  <221> SITE
                  <222> (4107)
                  <223> n equals a,t,g, or c
                  <220>
                  <221> SITE
                   <222> (4108)
                  <223> n equals a,t,g, or c
                  <220>
The state of the s
                   <221> SITE
                   <222> (4109)
                   <223> n equals a,t,g, or c
                   <220>
                    <221> SITE
                    <222> (4110)
<223> n equals a,t,g, or c
<220>
ij.
                    <221> SITE
la-1
                    <222> (4111)
T.
                    <223> n equals a,t,g, or c
                    <220>
                    <221> SITE
                    <222> (4112)
                     <223> n equals a,t,g, or c
                     <220>
                     <221> SITE
                     <222> (4113)
                     <223> n equals a,t,g, or c
                     <220>
                     <221> SITE
                     <222> (4114)
                     <223> n equals a,t,g, or c
                      <220>
                      <221> SITE
                      <222> (4115)
                      <223> n equals a,t,g, or c
                      <220>
                      <221> SITE
                      <222> (4116)
                       <223> n equals a,t,g, or c
```

```
<220>
    <221> SITE
    <222> (4117)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (4118)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
     <222> (4119)
    <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4120)
     <223> n equals a,t,g, or c
     <220>
See And Seed to the Seed South Stand Stand Stand
     <221> SITE
     <222> (4121)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4122)
     <223> n equals a,t,g, or c
     <220>
<221> SITE
<222> (4123)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4124)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4125)
     <223> n equals a,t,g, or c
     <220>
      <221> SITE
      <222> (4126)
      <223> n equals a,t,g, or c
      <220>
      <221> SITE
      <222> (4127)
      <223> n equals a,t,g, or c
      <220>
      <221> SITE
      <222> (4128)
      <223> n equals a,t,g, or c
      <220>
```

```
<221> SITE
<222> (4129)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4130)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4131)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4132)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4133)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4134)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4135)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4136)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4137)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4138)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4139)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4140)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (4141)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4142)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4143)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4144)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4145)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4146)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4147)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4148)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4149)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4150)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4151)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4152)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4153)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4154)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4155)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4156)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4157)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4158)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4159)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4160)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4161)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4162)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4163)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4164)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4165)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4178)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4179)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4180)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4181)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4182)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4183)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4184)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4185)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4186)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4187)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4188)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4189)
 <223> n equals a,t,g, or c
 <220>
```

```
<221> SITE
<222> (4190)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4191)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4192)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4193)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4194)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4195)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4196)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4197)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4198)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4199)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4200)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4201)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (4202)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4203)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4204)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4205)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4206)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4207)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4208)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4209)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4210)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4211)
<223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4212)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4213)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4214)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4215)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4216)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4217)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4218)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4219)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4220)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4221)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4222)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4223)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4224)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4225)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4226)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4227)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4228)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4229)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4230)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4231)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4232)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4233)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4234)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4235)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4236)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4237)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4238)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4239)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4240)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4241)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4242)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4243)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4244)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4245)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4246)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4247)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4248)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4249)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4250)
 <223> n equals a,t,g, or c
 <220>
```

```
<222> (4263)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4264)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4265)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4266)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4267)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4268)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4269)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4270)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4271)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4272)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4273)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4274)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4275)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4276)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4277)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4278)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4279)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4280)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4281)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4282)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4283)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4284)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4285)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4286)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4287)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4288)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4289)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4290)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4291)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4292)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4293)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4294)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4295)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4296)
<223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4297)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4298)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4299)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4300)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4301)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4302)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4303)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4304)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4305)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4306)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4307)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4308)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4309)
 <223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4310)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4311)
 <223> n equals a,t,g, or c
 <220>
```

```
<221> SITE
<222> (4312)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4313)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4314)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4315)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4316)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4317)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4318)
<223> n equals a,t,g, or c
<220>
<221> SITE
 <222> (4319)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4320)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4321)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4322)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4323)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
```

```
<222> (4324)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4325)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4326)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4327)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4328)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4329)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4330)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4331)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4332)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4333)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4334)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4335)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4336)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4337)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4338)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4339)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4340)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4341)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4342)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4343)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4344)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4345)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4346)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4347)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4348)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4349)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4350)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4351)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4352)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4353)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4354)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4355)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4356)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4357)
<223> n equals a,t,g, or c
<220>
 <221> SITE
 <222> (4358)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4359)
 <223> n equals a,t,g, or c
 <220>
 <221> SITE
 <222> (4360)
 <223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4361)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4362)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4363)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4364)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4365)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4366)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4367)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4368)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4369)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4370)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4371)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4372)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4373)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4374)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4375)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4376)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4377)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4378)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4379)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4380)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4381)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4382)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4383)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4384)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4385)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4386)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4387)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4388)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4389)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4390)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4391)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4392)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4393)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4394)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4395)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4396)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4397)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4398)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4399)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4400)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4401)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4402)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4403)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4404)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4405)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4406)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4407)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4408)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4409)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4410)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4411)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4412)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4413)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4414)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4415)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4416)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4417)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4418)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4419)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4420)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4421)
<223> n equals a,t,g, or c
```

```
<221> SITE
    <222> (4422)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
    <222> (4423)
    <223> n equals a,t,g, or c
    <220>
    <221> SITE
     <222> (4424)
    <223> n equals a,t,g, or c
    <220>
     <221> SITE
     <222> (4425)
     <223> n equals a,t,g, or c
    <220>
    <221> SITE
<222> (4426)
     <223> n equals a,t,g, or c
.F
<220>
     <221> SITE
     <222> (4427)
     <223> n equals a,t,g, or c
Ш
     <220>
=
<221> SITE
w.
     <222> (4428)
     <223> n equals a,t,g, or c
<220>
     <221> SITE
     <222> (4429)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4430)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4431)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4432)
     <223> n equals a,t,g, or c
     <220>
     <221> SITE
     <222> (4433)
     <223> n equals a,t,g, or c
```

<220>

<220>

```
<221> SITE
<222> (4434)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4435)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4436)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4437)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4438)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4439)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4440)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4441)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4442)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4443)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4444)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4445)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4446)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4447)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4448)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4449)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4450)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4451)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4452)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4453)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4454)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4455)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4456)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4457)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4458)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4459)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4460)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4461)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4462)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4463)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4464)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4465)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4466)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4467)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4468)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4469)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4470)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4471)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4472)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4473)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4474)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4475)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4476)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4477)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4478)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4479)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4480)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4481)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4482)
<223> n equals a,t,g, or c
```

<220>

```
<220>
<221> SITE
<222> (4483)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4484)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4485)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4486)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4487)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4488)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4489)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4490)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4491)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4492)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4493)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4494)
<223> n equals a,t,g, or c
```

```
<221> SITE
<222> (4495)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4496)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4497)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4498)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4499)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4500)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4501)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4502)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4503)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4504)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4505)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4506)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4507)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4508)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4509)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4510)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4511)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4512)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4513)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4514)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4515)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4516)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4517)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4518)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4519)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4520)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4521)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4522)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4523)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4524)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4525)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4526)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4527)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4528)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4529)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4530)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4531)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4532)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4533)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4534)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4535)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4536)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4537)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4538)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4539)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4540)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4541)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4542)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4543)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4544)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4545)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4546)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4547)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4548)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4549)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4550)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4551)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4552)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4553)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4554)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4555)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4556)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4557)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4558)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4559)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4560)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4561)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4562)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4563)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4564)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4565)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4566)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4567)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4568)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4569)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4570)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4571)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4572)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4573)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4574)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4575)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4576)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4577)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4578)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4579)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4580)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4581)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4582)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4583)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4584)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4585)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4586)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4587)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4588)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4589)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4590)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4591)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4592)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4593)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4594)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4595)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4596)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4597)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4598)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4599)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4600)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4601)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4602)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4603)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4604)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4605)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4606)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4607)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4608)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4609)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4610)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4611)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4612)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4613)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4614)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4615)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4616)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4617)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4618)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4619)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4620)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4621)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4622)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4623)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4624)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4625)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4626)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4627)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4628)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4629)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4630)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4631)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4632)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4633)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4634)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4635)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4636)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4637)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4638)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4639)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4640)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4641)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4642)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4643)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4644)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4645)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4646)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4647)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4648)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4649)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4650)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4651)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4652)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4653)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4654)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4655)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4656)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4657)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4658)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4659)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4660)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4661)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4662)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4663)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4664)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4665)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4666)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4667)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4668)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4669)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4670)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4671)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4672)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4673)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4674)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4675)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4676)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4677)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4678)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4679)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4680)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4681)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4682)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4683)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4684)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4685)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4686)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4687)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4688)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4689)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4690)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4691)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4692)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4693)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4694)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4695)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4696)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4697)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4698)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4699)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4700)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4701)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4702)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4703)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4704)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4705)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4706)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4707)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4708)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4709)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4710)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4711)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4712)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4713)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4714)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4715)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4716)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4717)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4718)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4719)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4720)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4721)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4722)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4723)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4724)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4725)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4726)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4727)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4728)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4729)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4730)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4731)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4732)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4733)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4734)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4735)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4736)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4737)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4738)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4739)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4740)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4741)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4742)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4743)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4744)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4745)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4746)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4747)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4748)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4749)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4750)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4751)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4752)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4753)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4754)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4755)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4756)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4757)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4758)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4759)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4760)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4761)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4762)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4763)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4764)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4765)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4766)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4767)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4768)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4769)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4770)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4771)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4772)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4773)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4774)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4775)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4776)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4777)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4778)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4779)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4780)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4781)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4782)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4783)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4784)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4785)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4786)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4787)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4788)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4789)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4790)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4791)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4792)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4793)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4794)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4795)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4796)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4797)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4798)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4799)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4800)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4801)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4802)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4803)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4804)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4805)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4806)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4807)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4808)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4809)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4810)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4811)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4812)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4813)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4814)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4815)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4816)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4817)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4818)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4819)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4820)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4821)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4822)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4823)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4824)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4825)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4826)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4827)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4828)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4829)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4830)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4831)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4832)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4833)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4834)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4835)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4836)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4837)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4838)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4839)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4840)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4841)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4842)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4843)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4844)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4845)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4846)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4847)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4848)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (4849)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4850)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4851)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4852)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4853)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4854)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4855)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4856)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4857)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4858)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4859)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4860)
<223> n equals a,t,g, or c
<220>
```

```
<221> SITE
<222> (4861)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4862)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4863)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4864)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4865)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4866)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4867)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4868)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4869)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4870)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4871)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4872)
<223> n equals a,t,g, or c
<220>
<221> SITE
```

```
<222> (4873)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4874)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4875)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4876)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4877)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4878)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4879)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4880)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4881)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4882)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4883)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4884)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4885)
```

```
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4886)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4887)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4888)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4889)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4890)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4891)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (4892)
<223> n equals a,t,g, or c
<400> 12796
                                                            60
120
180
240
300
nnnntgagat agaateteae tetgttgeee aggetggggt geagtggtge gateteaget
                                                           360
ccccacaacc tctgcctcca gggttcaagc aattctcctg cctcagcctc ctgagtatct
                                                           420
gggattacag gcatgcacca ctacgcttgg ctaatttttg tatttttagt agagacgggg
                                                           480
tttcaccatg ttggccaggc tggtcttgaa ctcctgacct caggtgattc gcccgccttg
                                                           540
gcctcccaaa gtgctgggat tacaggcatg agccaccgtg cctggctgaa agttcatttt
                                                           600
caatagcata gtccagacca ttttttttct aaatgtgcta ccagaatcaa agaaataata
                                                           660
acattccatt aaaacaaata aaatggcatt aaattaaatg ttctgcataa tttaagagcc
                                                           720
ctgaccaatt ttagtctttt ttttttttt gagacagagt ctcactgtgt cgcccaggct
                                                           780
ggagtgcagt ggtacgatct tggctcactg cagcctccac ctcctgggtt caagtgattc
                                                           840
tcctgcctca acctcccgag cagctgggat tacaggcatg tgccaccata cctggctaat
                                                           900
                                                           960
ttttatatct ttagtagaga tggggtttca ccatgttggc caggctggtc tcaaactctt
                                                          1020
gacctcaggt gatctgcccg cctcggcctc ccaaagtgct ggcattacag gcatgagtca
ctgcgcctgg cctagtctat tattaacaaa taaaaatttt aatacataaa aatggatgga
                                                          1080
tattttctag agccttaatt aagtaattca ctccaaatgt ctttttttt ttttttta
                                                          1140
gctagtaagt ggagacactt tgaaacatgg tgcttaaaaa aaaacacact acctacctgg
                                                          1200
                                                          1260
tgggctgttt catggtgaaa taacttattc tgtataattt gaatgcaatt cagatactat
gtagatgtta aaaagctaag ttaacataaa atgtacatca tgaaacgtca ccttacttga
                                                          1320
cggcattaat acatttttc cactaaaata cttgtaacca tggccatcag tatgaagaaa
                                                          1380
```

aattttaaac	acgatgaaag	gtggaaacgt	ttcacctcta	aatctgaaat	aaagataaaa	1440
atttagttat	ttggcatcag	gttttgggct	cagttgcttt	tcccccttat	acttaagata	1500
gttcatatag	tttcttgcat	acagggtaaa	ggctatgtca	gagcatgtaa	agaactggta	1560
atgaaatgga	tcacatagga	tgtaagaccc	acactttggt	gtactcacaa	ctattctcat	1620
acctgtgtaa	gactgaatac	agaatgggag	atgagagcta	ctctcatggc	aacttttagc	1680
		tctttacata				1740
ttgtaattaa	gttctgagaa	gttacaagaa	tttaaaaaat	ccatatctaa	gatttcctca	1800
tattaactaa	gtacttcttg	aaataaatca	gcatagatac	attacctgaa	tctaatttta	1860
cactgcatag	taggatcctt	aataagctta	gcctctaagg	gggccacttt	cttcagtatt	1920
tcatgtgtta	catagaattc	ctgaaataaa	ggacagtgct	gtaaaaggaa	agcagtatcc	1980
cacccagaca	caatttatgg	actataacag	aggcaacgtg	gtaaagtgaa	cattatgctg	2040
gacttggagt	tctgaagggg	tgggtttttg	ttttggcacc	tccacttact	atctgtgtag	2100
ccttgagcca	gttacttaat	cattttggcc	tccaactttg	gttatctgtc	ccttttagag	2160
atcaaaggca	ctattatttc	cctatgacag	cacttttcac	aatatattat	aattacttat	2220
caacttgtct	gtgcctccta	ctagactgta	agcttcatga	aggtagggat	ggtggctttt	2280
ctctttacca	ctatattcct	agcatctaat	acagtgcctg	gaacacagca	gatgcttaag	2340
aagtatttgt	tgaatgaatc	actgtaagat	gaggatgata	atagtaataa	gttactagct	2400
tttaagcacc	ttttatgtac	catatactac	tatgttaggt	gccttatata	cattagctca	2460
tttaatcctt	acatcagcaa	cactatgaga	attttttgtt	tgttttgaga	cagagtctcg	2520
ctccgtcgcc	caggctcgag	tgcggtggca	tgatctcggc	tcactgcaac	ctccgcctcc	2580
caggttcaag	cgattctcct	gcctcagcct	cccgagtagc	tgggactaca	ggcacctgcc	2640
accacgcccg	gctaattttg	tatttttca	gtagagacgg	ggtttcacca	tattggccag	2700
gctggcctgg	aactcctgac	cttgtgagcc	gcacgcctca	gcctcccaaa	gtgctgggat	2760
tacaggtgtg	agccaccact	caggctgcag	tgcaatggca	tgatctcggc	tcaccgcaac	2820
ctccacctcc	caggttcaag	tgattctcct	gctcagcctc	ctgagtagct	ggaattacag	2880
gcatgcgcca	ccatgcctgg	ctaattttgt	atttttaata	gagatggggt	ttcttcatgt	2940
tggtcaggct	ggtctcgagc	tcccgacttc	aggtgatcca	cccgcctcag	cctcccaaag	3000
tgctgggatt	acaggcgtga	gccactgcac	ctggcccatt	atgagaatat	tatcacgcct	3060
attttacaga	tgagaaggct	gaggctcagg	gaatttttgt	aatttataaa	aaggcataca	3120
ggtagtgaat	ggggaagcca	ggattcattt	agttctgttt	gactctaaag	tcccaactct	3180
ttcccccaaa	caaccccaac	caaccccgtt	atgcctatga	taatcacata	aaaatgtaca	3240
ctaaagagct	tttaggctgg	gcactgcggc	tcacgcctat	aatcctggca	ctttgggagg	3300
ccaaagcggg	aggatcacct	gaggtcaaga	gttcgagacc	aacctggtca	acatggtgaa	3360
accccatctc	tactaaaaat	acaaaaatta	gccaggcgtg	atggcaggcg	cctgtagtcc	3420
aagctatttg	ggaggctgaa	gcaggagaat	cgcttgaacc	cgggaggcag	aggttgcagg	3480
gagccgagat	cgtgccactg	cactccagcc	tgggtgacag	agcaagactc	tgctcaaaat	3540
aaataaataa	atagctttta	aaaggacaaa	gcattattaa	tttaaggtat	taaagtatta	3600
ctataacaga	taaaaaagaa	tttccttctg	ttacaaaagt	ctaaaaatac	tatgaaacca	3660
gcattataaa	attaaataca	agttccatat	tcaaagacaa	tggataatag	acctgaaatg	3720
ccaggagttt	acctgggtgg	gttttctctg	aagtattcag	acggagtctt	gctctgtcgc	3780
ccaggctgga	gtgcagtggc	tcaaactcgg	ctcactataa	cctccacctc	cccggttcaa	3840
ggtagctggg	attacaggcg	cacaccacca	tgcccggcta	atttttttgt	atttttagga	3900
gagacggggt	attcaccatg	gtgaccggac	tggtctcgaa	ctnnnnnnn	nnnnnnnnn	3960
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4020
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4080
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4140
					nnnnnnnnn	4200
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4260
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4320
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4380
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4440
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4500
					nnnnnnnnn	4560
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4620
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4680
					nnnnnnnnn	4740
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4800
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	4860
nnnnnnnnn	nnnnnnnnn	nnnnnnnnn	nnaaaaaaaa	aattagctgg	gcatggcggc	4920
acgcacctgt	agtcccagct	actagggagg	cggaggcagg	ataatccctt	gaacctgggt	4980
ggtggaggtt	gcagtgagcc	aagatcatgc	ccctgcactc	cagcctgggc	aacagagtga	5040

```
gacttcatct caaaaaagaa aagaaaaaaa agagtatcac taataata
<210> 12797
<211> 465
<212> DNA
<213> Homo sapiens
<400> 12797
ctacgttgga attacaagta ggacaacaaa gatgactatt aaagaaagcc tcctgagtgc
                                                                      60
                                                                     120
tggaagcaca gcaggcgtgg gtctgtccac tcactgtaat gtgatttgca caggaaaaca
                                                                     180
tcacataggg cacatcaact caggaaagat agtcgttgaa aagctacctc agctgggcgt
                                                                     240
agtggtcacg cctgtaatcc cagaactttg taaggctgtg aggcttgtgg atcccttgag
                                                                     300
accaagagta cgagaccaac ctgagcaaaa cagggagacc ccgcctatgc aaaaaataca
aaaattagcc aggcgtggtg gtgcactcct gttgactcag ctattcagga agctgaggca
                                                                     360
gaaggaccac aagaagtcaa ggccgcagtg gggtataatc acatcactgc actccaccat
                                                                     420
                                                                     465
<210> 12798
<211> 228
<212> DNA
<213> Homo sapiens
<400> 12798
                                                                      60
tcgaggtcag gagattgaga ccatcctggc taacatggtg aaaccccatc tctactaaaa
                                                                     120
atacaaaaaa aattagccgg gcgtggtggc gggagcctgt agtcccagct actcgggagg
                                                                     180
ttgaggcagg agaatggcgt gaacctggga ggcggagctt gtagtgagcc aagatcatgc
                                                                     228
cactgcactc cagcctgggc gacagagcga gactccgtct caaaaaaa
<210> 12799
<211> 5012
<212> DNA
<213> Homo sapiens
<400> 12799
                                                                      60
tgtaatccca gctgctcagg aggctgaggc gggagaatca cttgaacctg ggaggcggag
gttgcagcga gccgagatca tgccactgca ctccagcctg ggtgacagag cgagagaccc
                                                                     120
                                                                     180
tgtatcaaaa caaacaaaga aacagcaaca acaacaaaaa ttagcctcgg gtggtagcat
                                                                     240
gcatctgtga ttctcagcta cttgggaggc tgaggttgaa ggattgcttg agcccaggag
atcagggctg cagtgagcta tgattatacc actgcactcc agcctgcatg acagaccaag
                                                                     300
accttgtctc aaaaataaga taaaaataag aatattttca aatgtttgcc aatctgatgg
                                                                     360
gtgaaaaaat gcaaattcat tgttttcact agagtttccc tgaatagtgg tgaggctgcg
                                                                     420
tatctttggt atttggaaat gtctacgata tttgtccact tttcaaaagg ctcatttgtt
                                                                     480
ttgtttgttt gtaagttaga ttttttccta attgtatgca tattcttttt ttgttatatt
                                                                     540
                                                                     600
tattgcaaat attttctcct actccattgg tctttttgct ttatgtaggt acatctggaa
gttgttttct tcatagctcc caaggtatga aaatattctc ctacagtttt gctgttgttt
                                                                     660
tttttttcct ttggagaaaa ccatttttat tatcatcacc acccagctta tttgtgctgg
                                                                     720
                                                                     780
attatgtacc agtggcaaga tcttctaacg aacatctgca taacatttat tttatgtttt
                                                                     840
aaaagatgaa aataactgta caaggttaag tacaaaagta cacaagataa cagacacaaa
                                                                     900
aaaatgcatg tatgagattt cattctacct acagcacttt atgttcaaaa agtagaattc
                                                                     960
acgaaccaaa aaatattgtc cttctatagt cctgtcaggt ttagtgaaag cgagtctaac
atgattacaa cacctatatc actgatctga tatttatgaa aaaaatctta tttttcaata
                                                                    1020
aattaaagcc aatgcaaatg ggaatagcat ttcagttttt tggtgttttt cttttttta
                                                                    1080
atttttttta ttttgagaca gagtctcact ctgttgccca gactggagta cagtggcatg
                                                                    1140
                                                                    1200
atcttggttc accgtgacct ccacctctca ggttcaagca attcttgtgc ctcagccacc
tgagtagctg ggggttttca ccatgttgct caggctggtc ttaaactcct ggcctcaagt
                                                                    1260
                                                                    1320
gatccacctg cctcgccctc ccaaagtgct gggattacag gcatgagcca ccgcgcccgg
                                                                    1380
ccatgtttca ggtttataaa atagagatat gaacatggat ggtggtgatg gttgcacatt
atgaacgtta tcgaatgcta ctgaattgta cacttaaaaa atggctatga tggtaaattt
                                                                    1440
```

```
tatgttacgt gtattttacc acagcttaaa aaaagagaga ggaagaaaag ccagtgcaac
                                                                    1500
                                                                    1560
accctacaaa ctggaacact agctctttgg gaacaaggac ctgacatcag aacaagaagg
ctataagttc ccaaacctta aaagtatgat ctttttcaaa ctgcatccat ttctcacgtt
                                                                    1620
                                                                    1680
gaagatgtga aacccaatcc cgttcctctt tatgtgtggg tctgtgatct tgccttttca
                                                                    1740
tactgagcat ctaaatttct aaatacagta cttcctattg cttcaaagtc ttctaacttt
                                                                    1800
cttcatcaag tgagctacat ctagcttcat cttcactctt aatacccact aatttccata
                                                                    1860
tatatgacat tttggtcctt gtttcccaaa gtcatagttc agcagacggg gagtttgccc
agtttttctt gccttgactt ttttcctctt gttcagcaaa tttcactgga tttccagctg
                                                                    1920
ctgtgtcata atccctaggt acagctgttc tgtctctgcc aaagctgttg cttgcagggc
                                                                    1980
tcccatttga gctgccatag ctatctgagt tactggcatt cctgatgcca acagggcagc
                                                                    2040
aacattgaga acaaaatctc tagtaactgg agctatttct tgtttttgtt tttcaatgat
                                                                    2100
ttctttttct tttaaaaaat tttttcccaa cacccatccc aactatttct ttttcttgct
                                                                    2160
gttcttgtaa tttctttgcc tagtccatcc tcccagctaa agcttcttat gcatcctttg
                                                                    2220
                                                                    2280
ctgtgcctct gcctctgaag agagatgaac tggaaatctg gcttaaactt ctgctaaatc
ttagtttctc aatgctcttc tttctctctt gtcttctgct tcctgtacta cttctgcttc
                                                                    2340
tttcctatgc atgtcatatt tatttattta cttatttttc acacgcaaca cagatgtagt
                                                                    2400
ttttatcttg aacaggagca agatctgatc catggttttc tttctttctt ttttttct
                                                                    2460
ttcctttttg gagacggcgt ctcactctgt tggccaggct ggagtgcagt ggtgtgacct
                                                                    2520
cagctcactg aaacctccac ctcctgggtt caagtgattc tcctgcctca gcctcccaag
                                                                    2580
tagctgggac ctcagacatg catcaccacg cctggctaat ttttgcattt ttagtagaga
                                                                    2640
cagggttttg ccatgttggc caggttggtc tcaaactcct gaatctcagg tgatctgcct
                                                                    2700
gacttggcct cccaaagtgc tgggattaca ggtgtgaagc accatgtcca gcccatggtt
                                                                    2760
                                                                    2820
ttcttttcct gcttctagat catgatcgtt cttctctctg cttctggatt gagactactt
                                                                    2880
cttttccctc tactacgatg atgcctttca cgagacctgt atcttgagtg acttctgctt
                                                                    2940
cttgatggct ttctttgtgt ttgtgtctgt cctcatcatt ttcagatgaa tgtatttatt
                                                                    3000
tattgagaca gcatgtcact ctgttgccca ggctggagtg cagtggcaca atcacagctc
actgtaacct ctgtctcccc ggctcaagct tctcaccaca gcctcccgag tagctggaat
                                                                    3060
cacaggcaca caccaccacg cctggctaac ttttgtgttt tttatagaga cagggctttg
                                                                    3120
ccatgttgct caagctggtc tcaaacttgt gagcccaagc aatttgccca ccttggcctt
                                                                    3180
ccgaagtact gagactacag acgtgagtca ctgcgcccag cccattttca gatgaattta
                                                                    3240
                                                                    3300
gtccctctct tcctttatca gaataatgtt ctttgtcatt atgctcctca gaagtgtatt
tcttagagga tttgttgtag gattcctgtc ttcttgcctc atcatgaaat aggcttatta
                                                                    3360
ttttcctacc tgagtctgca atgtcttcag ttcagcctct ttgcccatca gcatgcgctt
                                                                    3420
3480
                                                                    3540
gaataatatt ttgagtaaga aaaacagatg catctgacag ttctttttcc acccactatc
tggggatgtc tttttctggg gctagtccat cttgtcctgg ataactaccc tatcttgaga
                                                                    3600
acccagtctt agtttcatga aacatcttta atgaaaacag ccttttggga tggtgctgct
                                                                    3660
                                                                    3720
gcaaactgtg gtctggctct cctcgcatgt gctctggctg ccgcagaaca gagctcaggc
cgctaggggg cacctccacg tgccgctttt agcagtacca gccacctcaa agctttgcca
                                                                    3780
                                                                    3840
cagactgaat agctccttcc gggggcctgg atggcaccca ggggatctgc cgttgctttt
ttaatttatt titttacatt tagctcatta atatctgtta gatatittta tgtctgcatt
                                                                    3900
                                                                    3960
gaaatatgta actttatttt tcccccaaag gataactgtt ccaacattat cagttagctt
gtcttttccc caccaactta aaatacgact cttattttta aaattgcatt ttataaacat
                                                                    4020
                                                                    4080
gtatgtttca gtaatttata ttctgcccca ctgatctata ttcccatctt agaattatac
ttttatttta tttttaaaat ttatttagag acaaggtctt ggtatgtcac tcaggctgga
                                                                    4140
atgcagtggt gcaatgataa ttcactgcaa ccttgaattc ctgggctcaa gcaatcctcc
                                                                    4200
cacctcagcc ttccaagtag ctgggactac aggtgtgtgc cactatgcct ggctaatttt
                                                                    4260
tttattttta tttttttgtg gagacgatgt tttgctatgt tgcccaggct ggtctcaaac
                                                                    4320
                                                                    4380
tcctgggctc gagggatctt cctgtcttgg ctgcccaaag tgttgggatt ataggcatga
gccacctcac ccagccttag tattatacta ttttagttaa caaagcttta caatgaattt
                                                                    4440
tgatacctag aaagactgca cccaggtgaa ataaacagcc ttgtttctca cacaaagcct
                                                                    4500
gtttggtggt ctcttcacat ggacacgtga gacagatttc gctagggaag caaataacca
                                                                     4560
tggaggtggg caagaaatat ccatgattgt agagctttca atcagccttt tattcttgta
                                                                     4620
acaaatgaaa aacaaaggat tatcagacat ctgcggaaaa cctctaacat agaagaagga
                                                                     4680
                                                                     4740
gataaaatga acaaacaata aaaagcaact taaaaatgga caccatataa agaaaggaaa
                                                                     4800
acagtttaaa aaaaaaaaa acccaaaacc ctattcttaa gctacagaga aagcctggcc
aacatggtga aaccctatct ctactaaaaa tacgaagtat tttagccagg catggtggca
                                                                     4860
                                                                     4920
catacctgta gtcccagctg ctcaggaggc tgaggcagga gaatcacctg cacccgggag
                                                                     4980
gctgaggctg cagtgttctg agatcacacc acagcactcc agcctgggtg acagagtgag
                                                                     5012
```

accttgtctc aaaaaaaaaa aaaaaaaaaa aa

<210> 12800 <211> 5012

<212> DNA <213> Homo sapiens <400> 12800 60 tgtaatccca gctgctcagg aggctgaggc gggagaatca cttgaacctg ggaggcggag 120 gttgcagcga gccgagatca tgccactgca ctccagcctg ggtgacagag cgagagaccc tgtatcaaaa caaacaaaga aacagcaaca acaacaaaaa ttagcctcgg gtggtagcat 180 240 gcatctgtga ttctcagcta cttgggaggc tgaggttgaa ggattgcttg agcccaggag 300 atcagggctg cagtgagcta tgattatacc actgcactcc agcctgcatg acagaccaag 360 accttgtctc aaaaataaga taaaaataag aatattttca aatgtttgcc aatctgatgg 420 gtgaaaaaat gcaaattcat tgttttcact agagtttccc tgaatagtgg tgaggctgcg tatctttggt atttggaaat gtctacgata tttgtccact tttcaaaagg ctcatttgtt 480 540 ttgtttgttt gtaagttaga ttttttccta attgtatgca tattctttt ttgttatatt 600 tattgcaaat attttctcct actccattgg tctttttgct ttatgtaggt acatctggaa 660 gttgttttct tcatagctcc caaggtatga aaatattctc ctacagtttt gctgttgttt 720 ttttttcct ttggagaaaa ccattttat tatcatcacc acccagctta tttgtgctgg attatgtacc agtggcaaga tcttctaacg aacatctgca taacatttat tttatgtttt 780 840 aaaagatgaa aataactgta caaggttaag tacaaaagta cacaagataa cagacacaaa aaaatgcatg tatgagattt cattctacct acagcacttt atgttcaaaa agtagaattc 900 960 acgaaccaaa aaatattgtc cttctatagt cctgtcaggt ttagtgaaag cgagtctaac 1020 atgattacaa cacctatatc actgatctga tatttatgaa aaaaatctta tttttcaata aattaaagcc aatgcaaatg ggaatagcat ttcagttttt tggtgttttt cttttttta 1080 1140 atttttttta ttttgagaca gagtctcact ctgttgccca gactggagta cagtggcatg 1200 atcttggttc accgtgacct ccacctctca ggttcaagca attcttgtgc ctcagccacc tgagtagctg ggggttttca ccatgttgct caggctggtc ttaaactcct ggcctcaagt 1260 gatccacctg cctcgccctc ccaaagtgct gggattacag gcatgagcca ccgcgcccgg 1320 ccatgtttca ggtttataaa atagagatat gaacatggat ggtggtgatg gttgcacatt 1380 1440 atgaacgtta tcgaatgcta ctgaattgta cacttaaaaa atggctatga tggtaaattt 1500 tatgttacgt gtattttacc acagcttaaa aaaagagaga ggaagaaaag ccagtgcaac accctacaaa ctggaacact agctctttgg gaacaaggac ctgacatcag aacaagaagg 1560 ctataagttc ccaaacctta aaagtatgat ctttttcaaa ctgcatccat ttctcacgtt 1620 gaagatgtga aacccaatcc cgttcctctt tatgtgtggg tctgtgatct tgccttttca 1680 tactgagcat ctaaatttct aaatacagta cttcctattg cttcaaagtc ttctaacttt 1740 cttcatcaag tgagctacat ctagcttcat cttcactctt aatacccact aatttccata 1800 tatatgacat tttggtcctt gtttcccaaa gtcatagttc agcagacggg gagtttgccc 1860 agtttttctt gccttgactt ttttcctctt gttcagcaaa tttcactgga tttccagctg 1920 ctgtgtcata atccctaggt acagctgttc tgtctctgcc aaagctgttg cttgcagggc 1980 tcccatttga gctgccatag ctatctgagt tactggcatt cctgatgcca acagggcagc 2040 aacattgaga acaaaatctc tagtaactgg agctatttct tgtttttgtt tttcaatgat 2100 ttctttttct tttaaaaaat tttttcccaa cacccatccc aactatttct ttttcttgct 2160 gttcttgtaa tttctttgcc tagtccatcc tcccagctaa agcttcttat gcatcctttg 2220 ctgtgcctct gcctctgaag agagatgaac tggaaatctg gcttaaactt ctgctaaatc 2280 ttagtttctc aatgctcttc tttctctctt gtcttctgct tcctgtacta cttctgcttc 2340 tttcctatgc atgtcatatt tatttattta cttatttttc acacgcaaca cagatgtagt 2400 ttttatcttg aacaggagca agatctgatc catggttttc tttctttctt ttttttct 2460 ttcctttttg gagacggcgt ctcactctgt tggccaggct ggagtgcagt ggtgtgacct 2520 cageteactg aaacetecae etectgggtt caagtgatte teetgeetea geeteceaag 2580 tagctgggac ctcagacatg catcaccacg cctggctaat ttttgcattt ttagtagaga 2640 2700 cagggttttg ccatgttggc caggttggtc tcaaactcct gaatctcagg tgatctgcct 2760 gacttggcct cccaaagtgc tgggattaca ggtgtgaagc accatgtcca gcccatggtt ttcttttcct gcttctagat catgatcgtt cttctctctg cttctggatt gagactactt 2820 2880 cttttccctc tactacgatg atgcctttca cgagacctgt atcttgagtg acttctgctt 2940 cttgatggct ttctttgtgt ttgtgtctgt cctcatcatt ttcagatgaa tgtatttatt tattgagaca gcatgtcact ctgttgccca ggctggagtg cagtggcaca atcacagctc 3000 actgtaacct ctgtctcccc ggctcaagct tctcaccaca gcctcccgag tagctggaat 3060 cacaggcaca caccaccacg cctggctaac ttttgtgttt tttatagaga cagggctttg 3120 ccatgttgct caagctggtc tcaaacttgt gagcccaagc aatttgccca ccttggcctt 3180 ccgaagtact gagactacag acgtgagtca ctgcgcccag cccattttca gatgaattta 3240

```
gtccctctct tcctttatca gaataatgtt ctttgtcatt atgctcctca gaagtgtatt
                                                                    3300
                                                                    3360
tcttagagga tttgttgtag gattcctgtc ttcttgcctc atcatgaaat aggcttatta
                                                                    3420
ttttcctacc tgagtctgca atgtcttcag ttcagcctct ttgcccatca gcatgcgctt
                                                                    3480
3540
gaataatatt ttgagtaaga aaaacagatg catctgacag ttcttttcc acccactatc
                                                                    3600
tggggatgtc tttttctggg gctagtccat cttgtcctgg ataactaccc tatcttgaga
                                                                    3660
acccagtctt agtttcatga aacatcttta atgaaaacag ccttttggga tggtgctgct
gcaaactgtg gtctggctct cctcgcatgt gctctggctg ccgcagaaca gagctcaggc
                                                                    3720
                                                                    3780
cgctaggggg cacctccacg tgccgctttt agcagtacca gccacctcaa agctttgcca
cagactgaat ageteettee gggggeetgg atggeaceea ggggatetge egttgetttt
                                                                    3840
ttaatttatt tttttacatt tagctcatta atatctgtta gatattttta tgtctgcatt
                                                                    3900
                                                                    3960
gaaatatgta actttatttt tcccccaaag gataactgtt ccaacattat cagttagctt
                                                                    4020
gtcttttccc caccaactta aaatacgact cttattttta aaattgcatt ttataaacat
                                                                    4080
gtatgtttca gtaatttata ttctgcccca ctgatctata ttcccatctt agaattatac
ttttatttta tttttaaaat ttatttagag acaaggtctt ggtatgtcac tcaggctgga
                                                                    4140
atgcagtggt gcaatgataa ttcactgcaa ccttgaattc ctgggctcaa gcaatcctcc
                                                                    4200
cacctcagcc ttccaagtag ctgggactac aggtgtgtgc cactatgcct ggctaatttt
                                                                    4260
tttattttta ttttttgtg gagacgatgt tttgctatgt tgcccaggct ggtctcaaac
                                                                    4320
                                                                    4380
tcctgggctc gagggatctt cctgtcttgg ctgcccaaag tgttgggatt ataggcatga
                                                                    4440
gccacctcac ccagccttag tattatacta ttttagttaa caaagcttta caatgaattt
                                                                    4500
tgatacctag aaagactgca cccaggtgaa ataaacagcc ttgtttctca cacaaagcct
gtttggtggt ctcttcacat ggacacgtga gacagatttc gctagggaag caaataacca
                                                                    4560
                                                                    4620
tggaggtggg caagaaatat ccatgattgt agagctttca atcagccttt tattcttgta
                                                                    4680
acaaatgaaa aacaaaggat tatcagacat ctgcggaaaa cctctaacat agaagaagga
                                                                    4740
gataaaatga acaaacaata aaaagcaact taaaaatgga caccatataa agaaaggaaa
acagtttaaa aaaaaaaaa acccaaaacc ctattcttaa gctacagaga aagcctggcc
                                                                    4800
aacatggtga aaccctatct ctactaaaaa tacgaagtat tttagccagg catggtggca
                                                                    4860
                                                                    4920
catacctgta gtcccagctg ctcaggaggc tgaggcagga gaatcacctg cacccgggag
                                                                    4980
gctgaggctg cagtgttctg agatcacacc acagcactcc agcctgggtg acagagtgag
                                                                    5012
accttgtctc aaaaaaaaaa aaaaaaaaaa aa
<210> 12801
<211> 2032
<212> DNA
<213> Homo sapiens
<400> 12801
gaaagaaaga aagaaagaaa tcatagacaa cgggaataaa aactgcaaga tacctaggaa
                                                                      60
tgaatccaac aaatgcactt tcttcacaga tcaaagcata aactctaatt gaagactata
                                                                     120
                                                                     180
aaaggcacat gcagtgttca tggcaccata gccatggatg aaaagactca tcattgtgga
                                                                     240
gattggcagt tctcaaatta atctggattt attaatacac ttttgattat attcccagga
                                                                     300
gagattttta taaaatgcag accagccaag gcaatattga agaggcgcag acggcattaa
                                                                     360
gaagctgcaa ttgcagggca gccaggccaa gaggcaccag ggccctcagc gcagcagtga
gcccagaagg gccgcaagtg gcagggtacc tctgcgcact agggaaggag ccatgttgct
                                                                     420
aaatggtgtt gggacagctg atgccatata gaaaaggatg cagtgatacc cctacctcac
                                                                     480
accatgcaca aaacacatca cagtgagaga cctaacctgt aaaagccttt cagagaaaaa
                                                                     540
tcaagaggaa atcttcctaa cagtgaggaa caaaaagaca gattgaacaa gagattgagg
                                                                     600
gtaaagacat caataggttt gactctacag acttcttcat gaccacaaga aaaatgtcac
                                                                     660
ggttgtaatg taagtggcag aataagaaaa gatatttgca gtatctacga gttacagaat
                                                                     720
atatataaaa atatgtgcaa ctgtctgtcg tgaaaaaaaa cggcaaacac cacacatcga
                                                                     780
                                                                     840
taaggatttg gggacattgg cttgtgtgtg tactgccgag agtgtagatg gtcacccatt
tggggaatga aatggccttc cctggggaga tcagagtcat gcaggataca tgactggcag
                                                                     900
ttccgttcta ggcgcttcct tctccacccg caaggacacg tgaagttgtt gactgtgaca
                                                                     960
tggttcacaa agccaggggc agctcaaatg acggggttag ttgtacagtg gaaggtaacg
                                                                    1020
caagattaaa tgagttaacc agagctgtgt gtcttgggcc agataaatcc tcaaagccta
                                                                    1080
acattaaaga agcaagttgc tagaaaatag gccccatttt gacactgaag aggttttttg
                                                                    1140
                                                                    1200
aaatgtggaa ggcatgttac gttgttgatg agcgtgcgta agcaggaaaa cctcagcagc
                                                                    1260
ccctgggagg cgccctcagc ccaagggaca gccctcccag gcaggtgcag gggcagacga
                                                                    1320
tgcttttact gtgtctaaaa ttatgcttct ctatgaaaaa aaaaaaagag caaacaatgg
taaaatgtta gcaaagttag agctgagtgg tgggtacaag gattactatg gtgttccttt
                                                                    1380
```

```
1440
ctqtatctta aaatggttat cattacagtt ttagaactga atctggtttt aaatacaggc
cgtcacgtga ggtgggggtt gctctgctct gtctaatccc cacacaaagg gcagcccttg
                                                                   1500
ccccattctc tccgtccatc ccttgctgac gccagccgtc gggagtcagc cccttgctgt
                                                                   1560
ctgaaggctg ccggcccgtg gcccatgccg agctcctgtt tgtctcagaa gaactggctt
                                                                   1620
cctcaagctt tgatagggcc aaaaggagga ccctcatctt caagccctaa cagccttcct
                                                                   1680
aaagtcaccc agacctgcca gttctgccca ggcgtccaga cggcaggcat cttagacgtc
                                                                   1740
gctgcaaggg tctgctccag atggtgagca ccttagacag acgttgctgg aaggcactgc
                                                                   1800
                                                                   1860
tctgaacggt gggcacctaa cagacgttcc gggaaggcac tgctccggat gttgggcatc
ttagatgttc ctggaaggca ctgctctgga cagtggacac cttagacaga tgttcctgga
                                                                   1920
aggetetget eegatgttee tggaaggete tgeteegaac agtgggeace ttagacagae
                                                                   1980
                                                                   2032
gttcctggaa ggctctgctc cgaacagtgg acaccttaga cagatgttcc tg
<210> 12802
<211> 144
<212> DNA
<213> Homo sapiens
<400> 12802
                                                                     60
ggtggcaggt gcctgtaatc ccagttactc aggaggctga ggcaggagaa tcacttgaac
                                                                    120
ctgggaggcg gaggttgcag tgagccaaga tcacaccact gcactccagc ctgggcaaaa
                                                                    144
gtgtgagact acatctcaaa aaaa
<210> 12803
<211> 187
<212> DNA
<213> Homo sapiens
<400> 12803
                                                                     60
ttgtttcttt tttttttt tttttttt ttgagacaga gtcttgcctt gtcgcccagg
ctggagtgca gtggcgcgat ctcggctcac tgcaagctcc gcctcctggg ttcatgccat
                                                                    120
tcttctgcct cagcctcccg agtagctggg actacaagcg cccaccacca cgcccagcta
                                                                    180
                                                                    187
atttttt
<210> 12804
<211> 3834
<212> DNA
<213> Homo sapiens
<400> 12804
                                                                     60
cgccctcccc caaaaaaaag aaaagaaaat cgaaagtctg tactatagtt ttggtccagc
tccctaaaat tttgtttagc tgcaaataat taagtgggat aatgcatgag aaggcatttg
                                                                     120
taaactgcaa agtgctagaa atgctgtgag gtaacttctt tcacccctct cctcactatt
                                                                     180
ctctgtctac agtggtattt cccaaggcat tctccttgaa accttagtct ctcattatgc
                                                                     240
cttcacaaga ggaggagagg aggcattgct agaaaatgct gcatgcccct actggagatc
                                                                     300
ggagagtcac aacatgcttt agcattttaa agtctatgaa acaggccaga cggatgtggt
                                                                     360
                                                                     420
ggctcacgcc tgtaatccca gcactttgga aggctaaggc gggtggatca cctgaggtta
                                                                     480
ggagtttgag accagcctga ccaacgtggc aaaacatcgt ctctactaaa aaatattaaa
                                                                     540
aaattagctg gacgtggtgg cttatgcctg taatcccagc tactcaagag gctgaggcac
cagaatcgct tgaacccagg aggcggaggt tgcagtaagc caaggttggg ccactgtact
                                                                     600
                                                                     660
ccaacctggg caacagagtg agactctgtc tcaaaaataa aaaataaaaa taaaggctat
                                                                     720
gggccgggcg tggtggctca cgcctgtaat cccagcactt tgggaggctg aggtgggtgg
                                                                     780
atcacaaggt caggagatcg agaccatcct ggctaacacg gtgaaacccc gtctctacta
                                                                     840
aaaatataaa aaattagctg ggcacggtgg cgggcgccta tagtcccagc tacttgggag
                                                                     900
gctgaggcag gagaatggca tgaacctggg aggcggagct tgcagtgaac caagatcgtg
                                                                     960
1020
aggctatgaa acaatggtga agacacctgt tggatctaat ttaacttagg gtgtacaaac
                                                                    1080
tgattttatt aaaatttcaa aaaaattgaa ttttaagctt ttaacagggg aggcaaatct
                                                                    1140
tgttatctga tgagaaatgt gtttggggaa gagctggtct gtctccactg ctgcctcctc
```

```
1200
tctctcacct tcttccccta ctgccctact gaaacttctc tcaaaaggca ttagtgaggg
                                                                   1260
gcctccgaat tgccaaatcc caagccctct tagtctttag catatttgac accattggca
catttcattc taaaaatctc tcccctctag cttctgtgat atactctggg tattttctct
                                                                   1320
                                                                   1380
ctctggcttt ccttagtcct ttttattctt gctctgtaaa ttccatgact ttttttttt
                                                                   1440
tttttttttg agacggagtc ttgctctgtc gcccaggctg gagtgcagtg gtgcaatctc
                                                                   1500
ggctcactgc aagctccacc tcccgggttc acgccattct cctgcctcag cctcccaagt
agctgggact acaggtgccc gccaccacgc ccagctaatt ttttgtattt tttagtagag
                                                                    1560
acggggtttc accgtgttag ccaggatggt ctcgatctcc tgacctcgtg atccgcccac
                                                                    1620
ctcggcctcc cagaatgctg ggattacagg agtgaaaatt tcataacttt cgactatcac
                                                                    1680
                                                                    1740
tctcaacccc ttctttgaag ctccagtctc atattccatg tgactagcag ggatcacctg
                                                                    1800
ccagacttcc aaaacctata ccacccctt cattctgcaa ctcagttaac agcataactc
                                                                    1860
                                                                    1920
cctaccccag tcacttaggt tggaaacctc agtcatttga ttccttcttg accccttcac
                                                                    1980
tgtctccctc tccgccagct tatacagggg gctagacctg caaattctgt ctctgtaata
gcccttatgc tcctattttc tcttcatttt cattttcact gccctaatcg aggccctcat
                                                                    2040
tgaacctttc ctttggaact ttacatatat cctctacaca atcagcagga ttttcttgct
                                                                    2100
                                                                    2160
gaaacacagt tgatcattgc tctcctgctt aaaatccttc aaaggctgtt cacttacaga
ataaaataaa attacgtagc attttagcta tgctggacaa cacgttgttc tattacatac
                                                                    2220
cactcctttc cctgtgtctg tgttttttgc ttatgctcat ctgtttggat ttttttcct
                                                                    2280
cctgacagaa ttgtacttag gcctcaaagc ctaattcaaa aggtcacttc cttccctaag
                                                                    2340
cctaacctac ctcccaataa tatttaatgg taatttcctc tgtgattacc cctatagaat
                                                                    2400
aacgtagcag ttatgttatt taagggtaac ataaagggta tttaacccat tatgttatgc
                                                                    2520
tgtttgtgtt gtatatgtct ctgctctcaa aggctgtgag ctctatgagg acaggaacta
                                                                    2580
tcttaatcaa ttgtgtattc ctagcacccc atacaagtgc ctggaatata gctacaatca
                                                                    2640
ataaatgttt gtaaattgaa ttgaattgaa gggacattac aacattgtag tataaatcac
                                                                    2700
tttgtagcct gagattgatc actactgcaa atactaaaag tggaagaaca tataccttta
                                                                    2760
ctattcagta gaatagtttt atggttaaat caatagcatc gtgtaacatg tgatgatgtg
                                                                    2820
cgtttatgca tttatccaaa tatttgtaag tttaatactg accacgatgt atatggctat
                                                                    2880
tgaagaaaac cacacataat atgtgtgtga ggtttgaaac tagctctgtt gcctagggct
                                                                    2940
gtctttgtgc cttgccagaa tgtggaccgt ggcatgatcg gcctgaatat ttagccatcc
                                                                    3000
tcatgatagc atgtggaata actggtttac agttcattcg tttcatacat actctgccta
gcatgtaaaa ttaactggaa actgaggaat tggagccaaa gttagaaaat gaggagagtt
                                                                    3060
caacttgaac catcaggaaa caggctgatt acatgaaggt ctttttgttt gtttgtttt
                                                                    3120
aacataataa atagagatgg ggtttcacca tgttgcccag gctggtctca aacttgtggg
                                                                    3180
ctcaagcaat cctcctgcct cagcctcccg aagtgctggg attacaggcc tgagccacca
                                                                    3240
                                                                    3300
tgcccatcct atatttttt tcaggcaata tccttttgtg ctcaagaaat taagacacac
                                                                    3360
accccaccac aaactacatt tgaagactct gccaaaaaaa tgccatgttt tttctcattt
                                                                    3420
tctttcatca gtaattaatg ataccaagaa cacttatatg catggtttat agcagttggc
                                                                    3480
tatggtcaaa aaaagttggg cttcccctct gagacatttg cagatatatg tcctaggtat
accatcagtg gcaaataatg cttatcttaa gatctaatct cacagggcat gctgggctca
                                                                    3540
                                                                    3600
cgcctgtaat cccagcactt tgggaggcca aggcaggagg atggcttgag gccaggagtt
                                                                    3660
taagaccaac ctgggcaaca tggcaggacc ctgtctctac aaaaaataaa aaaagttagc
                                                                    3720
caggcatggt ggcttacact tgtggtccca gctgcgcagg aggctgaggc agaaggatca
cttgagcact agaggtggag gttgcagtga gctgagattg gagtgccagt ggactccagc
                                                                    3780
ctgggtgaca gagcaagact ctgtctcaga aaacaaaaaa aaaaaaaaa aaaa
                                                                    3834
<210> 12805
<211> 464
<212> DNA
<213> Homo sapiens
<400> 12805
gaggcaggag gatcacttga acctgggagg cggaggttgc agtgagccga gattgtgcca
                                                                      60
ctgcactcca gcctgtgcaa tagaatgaga ctctgtctca aaatatatat ataaataaat
                                                                     120
aaaaaataaa aactagatgg tagtggagga ggttacacta agaatagaac aacctcttca
                                                                     180
agatagagtg aggctcagat gtcatacatt gaatatacca tgccgttcat tcattctaag
                                                                     240
actgactttt gagaaattat gctagtaggg cacagagaaa taaggaagtg cttagttcag
                                                                     300
agggtgcttt gtggctagca actcctaggt ctctccttac aacttagatt gcaaagtacc
                                                                     360
aacaactagt atatgctgta ttaggatttc tagaaactga atatcaagtc tcagaccagg
                                                                     420
                                                                     464
```

cacggtggct cacgcctata atccaagcac tttgggaggc tgag

```
<210> 12806
<211> 299
<212> DNA
<213> Homo sapiens
<400> 12806
                                                                     60
ggcgcggtgg ctcacgcctg taatcccagc actttgggag gccgaggcgg gcggatcacg
aggtcaggag atcgagacca tcccggctaa cacggtgaaa ccctgtctct actaaaaata
                                                                     120
caaaaaatta gctgggcgtg gtggcaggca tctgtagtcc cagctactcg ggaggctggg
                                                                     180
gcaggagaat ggcgtgaact caggaggcgg agcttgcagt gagccgagat cacgccactg
                                                                     240
cacttcagcc tgggcgacag agcaagactc catctcaaag aaaaaagaaa aaaaaaaac
                                                                     299
<210> 12807
<211> 1915
<212> DNA
<213> Homo sapiens
<400> 12807
                                                                      60
caaatgttgg tttgtatata tatttttaa aaggcactag acttagaaat gccaaagtaa
ttaattttct ttattttcag aaacaattta gtgttcatgg tacgaagtgt ttctaaattg
                                                                     120
                                                                     180
aaacactttc agattaatgg atttaagata actggttgct cttttctata agtagtaata
                                                                     240
atgagatatg gcttcagcta catatcagat accagatctc acttcctgtt cctttatttc
                                                                     300
attcatccat tcattcagca aatatttgct gagcactaaa atgctccaga cacagtgcat
gaaccctgaa gatataggca aattgcataa cccaagcaaa gggccagaga tgagcaacag
                                                                     360
                                                                     420
catggtacat accccaaact aagaacttca ctatggctag gatatataat ttagaagaaa
                                                                     480
gaaggttagg ttggggtagg aggaagcata ataaattatg aatttagaga tgtaatcaaa
                                                                     540
ttatgaaggg tcatgaaagc cttgtacaag attttgagtt tgatctccat agagtcatat
                                                                     600
aattagatta attttagaaa gctcatagtg tctgcagtgt ggagagtaga ttagaaggaa
                                                                     660
gcaggcctgg aagcagggag atcatttggg agacttttcc aggacagaga aaatggtggt
ctaaactggg atggttgcaa gggggatgaa aagaagtaga tatttaagag aaaatttaag
                                                                     720
                                                                     780
aatacttatt tagttcaaga acgttcctga aagaatgagc ctaaccatat tcttgatcat
ctaaggaagg tctattcctt ctcaaggaca gctaagtaaa ctaataattg attctaagtg
                                                                     840
                                                                     900
atgtaattga acagttcaaa gcagttattc gtcattagaa attattgata ctggtcagat
                                                                     960
aatacctact gagagctagt cccattaatt ttcatcataa ttataatcat agcatttaag
ccatattatt tctcagcatt tcctatgttc cagttttata gcactgaata ttttaaatgg
                                                                    1020
                                                                    1080
tttatattac ttaatactca cagtagcttt acaggtagat attattgtta tttccatttt
acaggtggag accaaggctt agagaagtta agtactttgc ctaaagttac acaggttgta
                                                                    1140
                                                                    1200
aatggtaaag ctattattgg aacctagtga ctttttagtt actggcccag ctgggattag
                                                                    1260
aacccagctc tatcctgtat tattatttcc aagactttta tttttgttgg ggttaattgc
                                                                    1320
taatattctg tacaacttcg ttttagccca gtcttgcata taatcatatt ttctgcataa
ataagataag ctagagtttg agtgagcaca tagtgaagaa tattgactat ttgtttttt
                                                                    1380
ctttccaatt agttagggta aagcaagtgt aaagggaagt ggatggtaag gcattttgag
                                                                    1440
gaggcaatca aatatgtttt tttctaatta tatatttcca agccaataat ttctttgaag
                                                                    1500
aagaatgttt taagcgtgtt tctttaccat gttaggccag taggtacaga gaaaataata
                                                                    1560
ttagctcttt atgtcagcat aggtaacaaa gccttaaaaa attcacagct gaatgcaaca
                                                                    1620
gtgaaggccg ttgacaagag aggttgcatt acttcaacca gggctactgc agtgaaccaa
                                                                    1680
aaaaagaact gagttctagg cttccatctc caggctacat cttaactgac taagagggca
                                                                    1740
gtttagctgt ccaggaagaa ctcgattgct aactctcact gataattttg caacagtgac
                                                                    1800
aataaagaat gaattttaaa aagaaaaact tgtctccctg aactattgaa ctccagaaaa
                                                                    1860
1915
<210> 12808
```

<211> 451

<212> DNA

<213> Homo sapiens

<400> 12808

```
tgaaaataaa ttgtcaacct ggaactatgt acctggaaac ccatctttca tgtacaaaga
                                                                       60
                                                                      120
tgaagtaaaa taaagatttt caaaaacgag gaatatttac agacctttgc gaagaagttt
                                                                      180
taaaggggtg tatttcataa aagtcccaag caagttctga gatgcaagaa tgaatatcga
                                                                      240
qccaatatac tgattaaaat gtttcatata aatcatcatt gtttctataa agtgataatt
                                                                      300
gtaataatgt aatttgtagg actttttaaa aaaaatttct ttaatttgag acggagtttc
                                                                      360
tcgattcttt tttatttgag acggagtttc tctcttgttg cccaggctgg agtgcaatgg
tgcgatctcc actcactgca acctccgcct cccccgttcg ggggtttctc ttgccccagc
                                                                      420
                                                                      451
ctcccaagta gttgggatca caggcatgcg c
<210> 12809
<211> 423
<212> DNA
<213> Homo sapiens
<400> 12809
                                                                       60
tggggaatga gaattctgct ctttgccttt cctcttggga tgtgagactt ttaataatct
tgaaaaatgt catgaatagc cacagaaact cttagttcct tttctttaaa tgtaaaaacc
                                                                      120
attatccaca aggtatactt ttcttcctgg tttaattcag cagtttttcc aattgtacct
                                                                      180
                                                                      240
aggtttttta cttacagatt ttaatgtaat tcttatatga gttattttt aatatacatc
tgcaggtcac taataagggg attgtatctt cgtttggcct aagtccagca atctgaaagt
                                                                      300
tggaaggtaa gaagcacttc gcaccatatt cacaagttct gtttttgatc agagttgaca
                                                                      360
                                                                      420
ttattgagtc agaatccaga aagcaacctc acttgtgaca ctgataggag tccaagggaa
                                                                      423
<210> 12810
<211> 2661
<212> DNA
<213> Homo sapiens
<400> 12810
ctgggattgg cctgcggttg ccagggagga gagtttggcg gcagatggtg gcacacaaca
                                                                       60
tttagcgcca tgcaaaggta cagaaaagat tgcgcgaagc gaggctagca gtcggaccta
                                                                      120
gtctccgccc cttcctgctg tgttcaccat cccagcgtcc cctgtcccct ccacccgaag
                                                                      180
cgatgggtgg ttccgtcagg gcgcttcccg caccttcccg ctccctgctt gcaaagtggt
                                                                      240
                                                                      300
tgtgccccaa ggtccgcctc caggccacgt gggtgctgcg ggccaagctt tcccttcctt
tgagagaggt ttccgctgta ggagcagagc ttccgggctg cgctcttcgt tgcccagttt
                                                                      360
ccgctcagtg gtcgcgtctc cgcccccac ccaccagtcc cgctgcattc tcggccgggc
                                                                      420
tctaggcgcc atggctcccc gcgggaggaa gcgtaaggct gaggccgcgg tggtcgccgt
                                                                      480
                                                                      540
agccgagaag cgagagaagc tggcgaacgg cggggaggga atggaggagg cgaccgttgt
                                                                       600
tatcgagcat tggtgagggg cctggagagt aacgggagag agggaacagt ggcgccgggg
ggggccaggg gccccggttt ctaacctctc cgtctctccc tagcactagc tgacgcgtct
                                                                      660
atgggcgcaa cgccgcggcc ctgagccagg cgctgcgcct ggaggcccca gagcttccag
                                                                      720
taaaggtgaa cccgacgaag ccccggaggg gcagcttcga ggtgacgctg ctgcgcccgg
                                                                       780
                                                                       840
acggcagcag tgagtgggga cctggatgtg ggggagagggg acgtgggtga aagggacgtg
                                                                       900
ggttccgaag acaggaagcg ctattcttag aaaccacggc agtctcatga cttcagagac
gtgctcgtgg gttccgaagt attgtaactt cgcttcattc tggcctttca ggtgcggagc
                                                                       960
tctggactgg gattaagaag gggcccccac gcaaactcaa attccctgag cctcaagagg
                                                                     1020
tggtggaaga gttgaagaag tacctgtcgt agggagattt gggtagaagc cctcatgctg
                                                                     1080
aggtttgaaa tgggaagtgg ggggcgcgac cgctgttgag gaagagaagg cattgatctt
                                                                     1140
ggtgtggcta caagtaccca cctggcgtgg gtagctcacg cctgcaatcc cagcactctg
                                                                      1200
ggaggtcgag gcaggagtgg atggccaaca cagggagacc ctatttgaaa acaaaaaaca
                                                                      1260
aaaaaaagac acaatattgt tttctgtcta gtgtgcccta agtggaattt atgtcctttg
                                                                      1320
ggagactgta gttgacttgc cctgggggta tggacaagtt ttccatttgg aagtttattt
                                                                      1380
catgttactt catttatgct tatccctacc ctcttctgtt tggttcttgg gtgttctgtt
                                                                      1440
actgtcctgt gttaacactg cattacaata ccattaaatt tggttacaag gattttgacc
                                                                      1500
                                                                      1560
ttgtctttgt ccctagtgct tcatacagtg ctttggcatg ttgttctgca cttattatgt
                                                                      1620
tgagtgagat ttggaggaag gatgcaatcc ttgagcttca gggtttgtga gttcaagggt
tggggaacat gtcttcctca gtccttaaga ttgcccggat cctttctcta accttatttc
                                                                      1680
ccttctcatt tttgcagctt tgtgtccctg gtgatgttgg aacattaatg atggaacatg
                                                                      1740
```

```
gccaaacttc agtcatgatc ctgaagccat ggtttcttcc ctgccagaaa tgaaggttca
                                                                     1800
                                                                     1860
gttatgaggc aaccetetag taaggcattg taaaagttae tggatttggt ttaataaaag
                                                                     1920
ttgaaataaa gtatttgagt aatagagtaa aacttaatct taagggatgg acaaagccag
                                                                     1980
ccttgtggag ttggtagtcc ttgtgttttt catagcccaa gatagccatg tgacctggaa
                                                                     2040
cttttaaaaa aaaatttttt tttaagagcc agagtctcac tttgtcaccc atgctggagt
                                                                     2100
atagtggtgc tatctcggct cactgcaacc attgtctccc aggttcaagc gatactcctg
                                                                     2160
cctcagtctc ctgagtagct gggatcacag gtgcacacca ccacgcctgg ctaatttttt
tatttttatt tttagtaaag gcggggtttc accatgttgg ccaggctggt ctcaaactcc
                                                                     2220
tgacctcaag tgatatgcct gccttgacct cccaaagtgc tggggttaca ggcatgatga
                                                                     2280
gccaccgcac ctggcctgac ctgcaacttt tatgatctct ggtaaaacat gagaaatact
                                                                     2340
tgtaaaaatt atgggagcaa agtaaataat ttatttttta aaaaagcaac tgtatctttt
                                                                     2400
tcaacttact ttttggaagt aatgatggaa gtacatcttc ttggcccctg cagaggtttt
                                                                     2460
                                                                     2520
agctagactt cctaatactg gcagtgaata agccccacgt tgggtgctgg acagcatcca
                                                                     2580
tcactcccac ccacttagta ttccacccaa cactgcttca caccttcctc tggaacattt
                                                                     2640
tcttaaacaa taccccacca cagaggaggg tgttctttct cagcttttcc taaattacca
                                                                     2661
gtgactggat gccttatgac c
<210> 12811
<211> 2660
<212> DNA
<213> Homo sapiens
<400> 12811
                                                                       60
ctgggattgg cctgcggttg ccagggagga gagtttggcg gcagatggtg gcacacaaca
tttagcgcca tgcaaaggta cagaaaagat tgcgcgaagc gaggctagca gtcggaccta
                                                                      120
                                                                      180
gtctccgccc cttcctgctg tgttcaccat cccagcgtcc cctgtcccct ccacccgaag
                                                                      240
cgatgggtgg ttccgtcagg cgcttcccgc accttcccgc tccctgcttg caaagtggtt
                                                                      300
gtgccccaag gtccgcctcc aggccacgtg ggtgctgcgg gccaagcttt cccttccttt
gagagaggtt tccgctgtag gagcagagct tccgggctgc gctcttcgtt gcccagtttc
                                                                      360
                                                                      420
cgctcagtgg tcgcgtctcc gcccccacc caccagtccc gctgcattct cggccgggct
ctaggcgcca tggctccccg cgggaggaag cgtaaggctg aggccgcggt ggtcgccgta
                                                                      480
                                                                      540
gccgagaagc gagagaagct ggcgaacggc ggggagggaa tggaggaggc gaccgttgtt
atcgagcatt ggtgaggggc ctggagagta acgggagaga gggaacagtg gcgccggggg
                                                                      600
gggccagggg ccccggtttc taacctctcc gtctctccct agcactagct gacgcgtcta
                                                                      660
                                                                      720
tgggcgcaac gccgcggccc tgagccaggc gctgcgcctg gaggccccag agcttccagt
aaaggtgaac ccgacgaagc cccggagggg cagcttcgag gtgacgctgc tgcgcccgga
                                                                      780
cggcagcagt aagtggggac ctggatgtgg gggagaggga cgtgggtgaa agggacgtgg
                                                                      840
gttccgaaga caggaagcgc tattcttaga aaccacggca gtctcatgac ttcagagacg
                                                                      900
                                                                      960
tgctcgtggg ttccgaagta ttgtaacttc gcttcattct ggcctttcag gtgcggagct
ctggactggg attaagaagg ggcccccacg caaactcaaa ttccctgagc ctcaagaggt
                                                                     1020
                                                                     1080
ggtggaagag ttgaagaagt acctgtcgta gggagatttg ggtagaagcc ctcatgctga
ggtttgaaat gggaagtggg gggcgcgacc gctgttgagg aagagaaggc attgatcttg
                                                                     1140
                                                                     1200
gtgtggctac aagtacccac ctggcgtggg tagctcacgc ctgcaatccc agcactctgg
gaggtcgagg caggagtgga tggccaacac agggagaccc tatttgaaaa caaaaaacaa
                                                                     1260
                                                                     1320
aaaaaagaca caatattgtt ttctgtctag tgtgccctaa gtggaattta tgtcctttgg
gagactgtag ttgacttgcc ctgggggtat ggacaagttt tccatttgga agtttatttc
                                                                     1380
atgttacttc atttatgctt atccctaccc tettetgttt ggttettggg tgttetgtta
                                                                     1440
                                                                     1500
ctgtcctgtg ttaacactgc attacaatac cattaaattt ggttacaagg attttgacct
                                                                      1560
tgtctttgtc cctagtgctt catacagtgc tttggcatgt tgttctgcac ttattatgtt
                                                                      1620
gagtgagatt tggaggaagg atgcaatcct tgagcttcag ggtttgtgag ttcaagggtt
ggggaacatg tcttcctcag tccttaagat tgcccagatc ctttctctaa ccttatttcc
                                                                      1680
cttctcattt ttgcagcttt gtgtccctgg tgatgttgga acattaatga tggaacatgg
                                                                      1740
ccaaacttca gtcatgatcc tgaagccatg gtttcttccc tgccagaaat gaaggttcag
                                                                      1800
                                                                      1860
ttatgaggca accetetagt aaggeattgt aaaagttact ggatttggtt taataaaagt
tgaaataaag tatttgagta atagagtaaa acttaatctt aagggatgga caaagccagc
                                                                      1920
                                                                      1980
cttgtggagt tggtagtcct tgtgtttttc atagcccaag atagccatgt gacctggaac
                                                                      2040
ttttaaaaaa aaattttttt ttaagagcca gagtctcact ttgtcaccca tgctggagta
                                                                      2100
tagtggtgct atctcggctc actgcaacca ttgtctccca ggttcaagcg atactcctgc
ctcagtctcc tgagtagctg ggatcacagg tgcacaccac cacgcctggc taatttttt
                                                                      2160
atttttattt ttagtaaagg cggggtttca ccatgttggc caggctggtc tcaaactcct
                                                                      2220
```

```
2280
gacctcaagt gatatgcctg ccttgacctc ccaaagtgct ggggttacag gcatgatgag
ccaccgcacc tggcctgacc tgcaactttt atgatctctg gtaaaacatg agaaatactt
                                                                     2340
                                                                     2400
gtaaaaatta tgggagcaaa gtaaataatt tatttttaa aaaagcaact gtatcttttt
                                                                     2460
caacttactt tttggaagta atgatggaag tacatcttct tggcccctgc agaggtttta
                                                                     2520
gctagacttc ctaatactgg cagtgaataa gccccacgtt gggtgctgga cagcatccat
cactcccacc cacttagtat tccacccaac actgcttcac accttcctct ggaacatttt
                                                                     2580
                                                                     2640
cttaaacaat accccaccac agaggagggt gttctttctc agcttttcct aaattaccag
                                                                     2660
tgactggatg ccttatgacc
<210> 12812
<211> 793
<212> DNA
<213> Homo sapiens
<400> 12812
                                                                       60
tggggggcgc gaccgctgtt gaggaagaga aggcattgat cttggtgtgg ctacaagtac
ccacctggcg tgggtagctc acgcctgcaa tcccagcact ctgggaggtc gaggcaggag
                                                                      120
                                                                      180
tggatggcca acacagggag accctatttg aaaacaaaaa acaaaaaaaa gacacaatat
                                                                      240
tgttttctgt ctagtgtgcc ctaagtggaa tttatgtcct ttgggagact gtagttgact
                                                                      300
tgccctgggg ggtatggaca agttttccat ttggaagttt atttcatgtt acttcattta
tgcttatccc taccctcttc tgtttggttc ttgggtgttc tgttactgtc ctgtgttaac
                                                                      360
                                                                      420
actgcattac aataccatta aatttggtta caaggatttt gaccttgtct ttgtccctag
                                                                      480
tgcttcatac agtgctttgg catgttgttc tgcacttatt atgttgagtg agatttggag
                                                                      540
gaaggatgca atccttgagc ttcagggttt gtgagttcaa aggttgggga acatgtcttc
                                                                      600
ctcagtcctt aagatgccca gatcctttct ctaaccttat ttcccttctc atttttgcag
                                                                      660
ctttgtgtcc ctggtgatgt gggaacatta atgatggaac atggccaact tcagtcatga
                                                                      720
acctgaagcc ctgggttctt tcctgccgga aagaagggtt aggtatgaag gaaaccttct
                                                                      780
tataagggat tgtaaaagta ctggatatgg gttaataaaa ggttaagaaa agtatttggg
                                                                      793
gaataaaata aaa
<210> 12813
<211> 2245
<212> DNA
<213> Homo sapiens
<400> 12813
ctgggattgg cctgcggttg ccagggagga gagtttggcg gcagatggtg gcacacaaca
                                                                       60
                                                                      120
tttagcgcca tgcaaaggta cagaaaagat tgcgcgaagc gaggctagca gtcggaccta
                                                                      180
gtctccgccc cttcctgctg tgttcaccat cccagcgtcc cctgtcccct ccacccgaag
cgatgggtgg ttccgtcagg cgcttcccgc accttcccgc tccctgcttg caaagtggtt
                                                                      240
                                                                      300
gtgccccaag gtccgcctcc aggccacgtg ggtgctgcgg gccaagcttt cccttcttt
gagagaggtt tccgctgtag gagcagagct tccgggctgc gctcttcgtt gcccagtttc
                                                                      360
cgctcagtgg tcgcgtctcc gcccccacc caccagtccc gctgcattct cggccgggct
                                                                      420
ctaggcgcca tggctccccg cgggaggaag cgtaaggctg aggccgcggt ggtcgccgta
                                                                      480
                                                                      540
gccgagaagc gagagaagct ggcgaacggc ggggagggaa tggaggaggc gaccgttgtt
                                                                       600
atcgagcatt ggtgaggggc ctggagagta acgggagaga gggaacagtg gcgccggggg
gggccagggg ccccggtttc taacctctcc gtctctccct agcactagct gacgcgtcta
                                                                       660
                                                                      720
tgggcgcaac gccgcggccc tgagccaggc gctgcgcctg gaggccccag agcttccagt
aaaggtgaac ccgacgaagc cccggagggg cagcttcgag gtgacgctgc tgcgcccgga
                                                                       780
                                                                       840
cggcagcagt aagtggggac ctggatgtgg gggagaggga cgtgggtgaa agggacgtgg
gttccgaaga caggaagcgc tattcttaga aaccacggca gtctcatgac ttcagagacg
                                                                       900
tgctcgtggg ttccgaagta ttgtaacttc gcttcattct ggcctttcag gtgcggagct
                                                                      960
ctggactggg attaagaagg ggcccccacg caaactcaaa ttccctgagc ctcaagaggt
                                                                     1020
ggtggaagag ttgaagaagt acctgtcgta gggagatttg ggtagaagcc ctcatgctga
                                                                     1080
ggtttgaaat gggaagtggg gggcgcgacc gctgttgagg aagagaaggc attgatcttg
                                                                     1140
gtgtggctac aagtacccac ctggcgtggg tagctcacgc ctgcaatccc agcactctgg
                                                                     1200
gaggtcgagg caggagtgga tggccaacac agggagaccc tatttgaaaa caaaaaacaa
                                                                     1260
                                                                     1320
aaaaaagaca caatattgtt ttctgtctag tgtgccctaa gtggaattta tgtcctttgg
gagactgtag ttgacttgcc ctgggggtat ggacaagttt tccatttgga agtttatttc
                                                                     1380
```

```
atgttacttc atttatgctt atccctaccc tcttctgttt ggttcttggg tgttctgtta
                                                                     1440
                                                                     1500
ctgtcctgtg ttaacactgc attacaatac cattaaattt ggttacaagg attttgacct
                                                                     1560
tgtctttgtc cctagtgctt catacagtgc tttggcatgt tgttctgcac ttattatgtt
                                                                     1620
gagtgagatt tggaggaagg atgcaatcct tgagcttcag ggtttgtgag ttcaagggtt
                                                                     1680
ggggaacatg tcttcctcag tccttaagat tgcccagatc ctttctctaa ccttatttcc
                                                                     1740
cttctcattt ttgcagcttt gtgtccctgg tgatgttgga acattaatga tggaacatgg
ccaaacttca gtcatgatcc tgaagccatg gtttcttccc tgccagaaat gaaggttcag
                                                                     1800
                                                                     1860
ttatgaggca accetetagt aaggeattgt aaaagttact ggatttggtt taataaaagt
                                                                     1920
tgaaataaag tatttgagta atagagtaaa acttaatctt aagggatgga caaagccagc
cttgtggagt tggtagtcct tgtgtttttc atagcccaag atagccatgt gacctggaac
                                                                     1980
                                                                     2040
ttttaaaaaa aaatttttt ttaagagcca gagtctcact ttgtcaccca tgctggagta
                                                                     2100
tagtggtgct atctcggctc actgcaacca ttgtctccca ggttcaagcg atactcctgc
                                                                     2160
ctcagtctcc tgagtagctg ggatcacagg tgcacaccac cacgcctggc taatttttt
                                                                     2220
atttttattt ttagtaaagg cggggtttca ccatgttggc caggctggtc tcaaactcct
                                                                     2245
gacctcaagt gatatgcctg ccttg
<210> 12814
<211> 2660
<212> DNA
<213> Homo sapiens
<400> 12814
                                                                       60
ctgggattgg cctgcggttg ccagggagga gagtttggcg gcagatggtg gcacacaaca
                                                                      120
tttagcgcca tgcaaaggta cagaaaagat tgcgcgaagc gaggctagca gtcggaccta
                                                                      180
gtctccgccc cttcctgctg tgttcaccat cccagcgtcc cctgtcccct ccacccgaag
                                                                      240
cgatgggtgg ttccgtcagg cgcttcccgc accttcccgc tccctgcttg caaagtggtt
                                                                      300
gtgccccaag gtccgcctcc aggccacgtg ggtgctgcgg gccaagcttt cccttccttt
                                                                      360
gagagaggtt tccgctgtag gagcagagct tccgggctgc gctcttcgtt gcccagtttc
                                                                      420
cgctcagtgg tcgcgtctcc gcccccacc caccagtccc gctgcattct cggccgggct
ctaggcgcca tggctccccg cgggaggaag cgtaaggctg aggccgcggt ggtcgccgta
                                                                      480
                                                                      540
gccgagaagc gagagaagct ggcgaacggc ggggagggaa tggaggaggc gaccgttgtt
atcgagcatt ggtgaggggc ctggagagta acgggagaga gggaacagtg gcgccggggg
                                                                      600
gggccagggg ccccggtttc taacctctcc gtctctccct agcactagct gacgcgtcta
                                                                      660
tgggcgcaac gccgcggccc tgagccaggc gctgcgcctg gaggccccag agcttccagt
                                                                      720
                                                                      780
aaaggtgaac ccgacgaagc cccggagggg cagcttcgag gtgacgctgc tgcgcccgga
                                                                      840
cggcagcagt aagtggggac ctggatgtgg gggagaggga cgtgggtgaa agggacgtgg
                                                                      900
gttccgaaga caggaagcgc tattcttaga aaccacggca gtctcatgac ttcagagacg
                                                                      960
tgctcgtggg ttccgaagta ttgtaacttc gcttcattct ggcctttcag gtgcggagct
ctggactggg attaagaagg ggcccccacg caaactcaaa ttccctgagc ctcaagaggt
                                                                     1020
                                                                     1080
ggtggaagag ttgaagaagt acctgtcgta gggagatttg ggtagaagcc ctcatgctga
ggtttgaaat gggaagtggg gggcgcgacc gctgttgagg aagagaaggc attgatcttg
                                                                     1140
                                                                     1200
gtgtggctac aagtacccac ctggcgtggg tagctcacgc ctgcaatccc agcactctgg
gaggtcgagg caggagtgga tggccaacac agggagaccc tatttgaaaa caaaaaacaa
                                                                     1260
aaaaaagaca caatattgtt ttctgtctag tgtgccctaa gtggaattta tgtcctttgg
                                                                     1320
                                                                     1380
gagactgtag ttgacttgcc ctgggggtat ggacaagttt tccatttgga agtttatttc
                                                                     1440
atgttacttc atttatgctt atccctaccc tcttctgttt ggttcttggg tgttctgtta
ctgtcctgtg ttaacactgc attacaatac cattaaattt ggttacaagg attttgacct
                                                                     1500
tgtctttgtc cctagtgctt catacagtgc tttggcatgt tgttctgcac ttattatgtt
                                                                     1560
                                                                     1620
gagtgagatt tggaggaagg atgcaatcct tgagcttcag ggtttgtgag ttcaagggtt
ggggaacatg tetteeteag teettaagat tgeecagate etttetetaa eettatttee
                                                                      1680
                                                                      1740
cttctcattt ttgcagcttt gtgtccctgg tgatgttgga acattaatga tggaacatgg
ccaaacttca gtcatgatcc tgaagccatg gtttcttccc tgccagaaat gaaggttcag
                                                                      1800
ttatgaggca accctctagt aaggcattgt aaaagttact ggatttggtt taataaaagt
                                                                      1860
                                                                      1920
tgaaataaag tatttgagta atagagtaaa acttaatctt aagggatgga caaagccagc
                                                                      1980
citqtqqaqt tqqtagtcct tgtgtttttc atagcccaag atagccatgt gacctggaac
                                                                      2040
ttttaaaaaa aaatttttt ttaagagcca gagtctcact ttgtcaccca tgctggagta
                                                                      2100
tagtggtgct atctcggctc actgcaacca ttgtctccca ggttcaagcg atactcctgc
                                                                      2160
ctcagtctcc tgagtagctg ggatcacagg tgcacaccac cacgcctggc taatttttt
atttttattt ttagtaaagg cggggtttca ccatgttggc caggctggtc tcaaactcct
                                                                      2220
```

2280

gacctcaagt gatatgcctg ccttgacctc ccaaagtgct ggggttacag gcatgatgag

```
2340
ccaccgcacc tggcctgacc tgcaactttt atgatctctg gtaaaacatg agaaatactt
gtaaaaatta tgggagcaaa gtaaataatt tatttttaa aaaagcaact gtatcttttt
                                                                     2400
                                                                     2460
caacttactt tttggaagta atgatggaag tacatcttct tggcccctgc agaggtttta
gctagacttc ctaatactgg cagtgaataa gccccacgtt gggtgctgga cagcatccat
                                                                     2520
                                                                     2580
cactcccacc cacttagtat tccacccaac actgcttcac accttcctct ggaacatttt
                                                                     2640
cttaaacaat accccaccac agaggagggt gttctttctc agcttttcct aaattaccag
                                                                     2660
tgactggatg ccttatgacc
<210> 12815
<211> 623
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (95)
<223> n equals a,t,g, or c
<400> 12815
                                                                       60
caattttgtt ttctgtctag tgtgccctaa gtggaaattt atgtctttgg gaagactgta
gtgtacttgc cttggggggt aggaacaagt tttcncattt ggaagtttat ttcatgtact
                                                                      120
                                                                      180
tcatttatgc ttatccctac cttcttctgt ttggttcttg ggtgttctgt aactgtcctg
                                                                      240
tgttaacact gcattacaat accattaaat ttggttacaa ggattttgac cttgtctttg
                                                                      300
tccctagtgc ttcatacagt gctttggcat gttgttctgc acttattatg ttgagtgaga
                                                                      360
tttggaggaa ggatgcaatc cttgagcttc agggtttgtg agttcaaggg ttggggaaca
tgtcttcctc agtccttaag attgcccaga tcctttctct aaccttattt cccttctcat
                                                                      420
                                                                      480
ttttgcagct ttgtgtccct ggtgatgttg gaacattaat gatggaacat ggccaaactt
                                                                      540
cagtcatgat cctgaagcca tggtttcttc cctgccagaa atgaaggttc agttatgagg
caaccctcta gtaaggcatt gtaaaagtta ctggatttgg tttaataaaa gttgaaataa
                                                                      600
                                                                      623
agtatttgag taatagagta aaa
<210> 12816
<211> 2297
<212> DNA
<213> Homo sapiens
<400> 12816
ggacaagagg gtcacttgga ttgtggagtt ctttgccaat tggtctaatg actgccaatc
                                                                       60
atttgcccct atctatgctg acctctccct taagtgagta gtgcaaaggg agggatggtg
                                                                      120
gaaatggaga tgctgtgcct tccctctcac tgtttttggc ttttcttttt cttttggcct
                                                                      180
tgattttcac acatggtaac caaaggcatc teceteteec etettaaata tetataette
                                                                      240
cactttcctt gatccattat tttttttcag catattaaat aatatattct tttcagatac
                                                                      300
                                                                      360
aactgtacag ggctaaattt tgggaaggtg gatgttggac gctatactga tgttagtacg
cggtatgtaa agacctgggc agagggtctg agcagggaaa tcactttgag tgatacatac
                                                                       420
                                                                       480
agggacattt agagaacttt ctgggeeetg caggtacaaa gtgageacat cacceeteae
                                                                       540
caagcaactc cctaccctga tcctgttcca aggtggcaag gaggcaatgc ggcggccaca
                                                                       600
gattgacaag aaaggacggg ctgtctcatg gaccttctct gaggtacctg aaaggaaggg
caggtgcatg aagggtgcag aacagtaggt gggctttcaa gccctacccg ggtttgattc
                                                                       660
                                                                       720
acagctctgc cacttgccca ttagctttga gggtgtggac tagttactag acctcatgtt
ttaattcatt tagcaaatat atattatgtg cagacctgct agtactgggt aacaatcatt
                                                                       780
agttaagatt tggtctcagg ccaggcacgg tggctcacgc ctgtaatccc agcactttgg
                                                                       840
                                                                       900
gaggccgagg ctggcagatc acctgaggtc aggagtttga gaccagcctg accaacatgg
                                                                       960
agaaaccccg tgtctactaa aaatacaaaa atagccgagt gtggtggcgc atgcctataa
tgccagctat ttgggaggct gaggcaggag aatcacttga acccgggagg tggaggttgc
                                                                      1020
agtgagctga gattgcacca ttgcggtcca gcctgggcaa caagagactc catcaggaaa
                                                                      1080
aaaaaaaaa gattctgtct cgaaggccat tgcccctatg gtctgtaggt tttaggtccc
                                                                      1140
                                                                      1200
ctgtcagtta ttggggggta ataaccccgg gcttacaggc ttgtttgcag attacattaa
                                                                      1260
ataatttagg tataattett ggcaeggtga ttggeaeata atgggtattt aactattagt
tgacttttct gggtacctaa aaaagaggaa ggttagggaa gatttttgtc ctttgcttac
```

1320

```
1380
tccttccttt cccagacttt gtgtaaaata cctcttactt cccaggctct ttactctccc
ttccaaccca gatcctgacg tgtgcatctc ttttgtgcag gagaatgtga tccgagaatt
                                                                   1440
                                                                   1500
taacttaaat gagctatacc agcgggccaa gaaactatca aaggctggag acaatatccc
tgaggagcag cctgtggctt caacccccac cacagtgtca gatggggaaa acaagaagga
                                                                   1560
taaataagat cctcactttg gcagtgcttc ctctcctgtc aattccaggc tctttccata
                                                                   1620
accacaagcc tgaggctgca gccttttatt tatgttttcc ctttggctgt gactgggtgg
                                                                   1680
                                                                   1740
ggcagcatgc agcttctgat tttaaagagg catctaggga attgtcaggc accctacagg
                                                                   1800
aaggcctgcc atgctgtggc caactgtttc actggagcaa gaaagagatc tcataggacg
gagggggaaa tggtttccct ccaagcttgg gtcagtgtgt taactgctta tcagctattc
                                                                   1860
agacatetee atggtttete catgaaacte tgtggtttea teatteette ttagttgaee
                                                                   1920
                                                                   1980
tgcacagctt ggttagacct agatttaacc ctaaggtaag atgctggggt atagaacgct
aagaattttc ccccaaggac tcttgcttcc ttaagccctt ctggcttcgt ttatggtctt
                                                                   2040
                                                                   2100
cattaaaagt ataagcctaa ctttgtcgct agtcctaagg agaaaccttt aaccacaaag
                                                                   2160
tttttatcat tgaagacaat attgaacaac cccctatttt gtggggattg agaaggggtg
                                                                   2220
aatagaggct tgagactttc ctttgtgtgg taggacttgg aggagaaatc ccctggactt
                                                                   2280
tcactaaccc tctgacatac tccccacacc cagttgatgg ctttccgtaa taaaaagatt
                                                                   2297
gggatttcct tttgatt
<210> 12817
<211> 397
<212> DNA
<213> Homo sapiens
<400> 12817
                                                                     60
ctcccacctg tctttcccag accagatggg tttggggtgc tctgcagagg actagctctg
                                                                    120
cctggttttg gcttgtcctc tggtgttctt tatttacact cctctgccgc caaagacgcc
ggccaggggt tgcaggcact gagctagatc cacttaaaat gctggaaggc tttgatgtac
                                                                    180
                                                                    240
agataccagg agatggcttt gagcgactga gcctgatctt tctgggcaac aggtgtttgt
                                                                    300
ccacagaggg gtacaagctg ggtggggaga gcactgtagg atcaagggca gtgtcattct
                                                                    360
tgttctctct aggctcttga ctatggcttg atggtgaaga gtttttttct tgtggagttg
                                                                    397
ggcaggctct ggccttcctc ttgagcagaa gagtgcc
<210> 12818
<211> 398
<212> DNA
<213> Homo sapiens
<400> 12818
                                                                     60
ctcccacctg tctttcccag accagatggg tttggggtgc tctgcagagg actagctctg
cctggttttg gcttgtcctc tggtgtttct ttatttacac tcctctgccg ccaaagacgc
                                                                     120
cggccagggg ttgcaggcac tgagctagat ccacttaaaa tgctggaagg ctttgatgta
                                                                     180
cagataccag gagatggctt tgagcgactg agcctgatct ttctgggcaa caggtgtttg
                                                                     240
tccacagagg ggtacaagct gggtggggag agcactgtag gatcaagggc agtgtcattc
                                                                     300
ttgttctctc taggctcttg actatggctt gatggtgaag agtttttttc ttgtggagtt
                                                                     360
                                                                     398
gggcaggctc tggccttcct cttgagcaga agagtgcc
<210> 12819
<211> 3369
<212> DNA
<213> Homo sapiens
<400> 12819
                                                                      60
gagagaagtg gagatcctga tgtttctcag tgccattgtg atgatgaaga accgcagatc
cagtaagttt agttcacttc tcagactcaa ggttagatct aatgcccttt ggaggtgctt
                                                                     120
tgcttcatgt taagagagtg gcaatcattt ggtaaatttg tcctacgttt aattccaagg
                                                                     180
ctgaatttga acttggactt ctatcccctc cctgtctcct atttcaaagt gccccatgaa
                                                                     240
300
tttcagtcac tgtggagcaa catataggca acattttcat gtttagtaaa gtggccaaca
                                                                     360
```

```
420
caattettt etteegettg gatattegea tgggeetaet ttacateaea etetgeatag
gtgaggagac tgcctttctt tcttttttt tttttgtaag actgtgttga tagacttgat
                                                                     480
                                                                     540
tgtggaaacc acagtcccaa cagttgcaat cccaaacatg tttctccata cccttcttcc
                                                                     600
atatctcata cctaatgaat tatatatgta gctcagatga taacagttta cagagactgt
tattgtagag gtagggaatg tgttggtggt ctacatatat ccacaagtgt gtattatttg
                                                                     660
ggggctgaaa tccttgggtt ggtttggaag taaattccct gtgtaaggct ttttatgttt
                                                                     720
                                                                     780
ccttcgacat cttctttctg tatttagtgt tcctgatgac gtgcaaaccc cccctatata
tgggccctga gtatatcaag tacttcaatg ataaaaccat tgatgtgagt gctctttccc
                                                                     840
                                                                     900
ctttctgttt cttgggtccc ttgtgggtga ttttgtagtt gtgctctcca ttcactagga
ggaacaacag tgcttcaaaa tggatgtcac gggcactgtg gttcattatg agagccgggg
                                                                     960
gagagggaac accaggatga ggaattagat gctaaagtct gaaccttccc aggaggctat
                                                                    1020
                                                                    1080
gtggatccag ctgacttttc ttccctgtat ttggcaggag gaactagaac gggacaagag
ggtcacttgg attgtggagt tctttgccaa ttggtctaat gactgccaat catttgcccc
                                                                    1140
                                                                    1200
tatctatgct gacctctccc ttaagtgagt agtgcaaagg gagggatggt ggaaatggag
                                                                    1260
cacatggtaa ccaaaggcat ctccctctcc cctcttaaat atctatactt ccactttcct
                                                                    1320
                                                                    1380
tgatccatta tttttttca gcatattaaa taatattc ttttcagata caactgtaca
gggctaaatt ttgggaaggt ggatgttgga cgctatactg atgttagtac gcggtatgta
                                                                    1440
                                                                    1500
aagacctggg cagagggtct gagcagggaa atcactttga gtgatacata cagggacatt
                                                                    1560
tagagaactt tctgggccct gcaggtacaa agtgagcaca tcaccctca ccaagcaact
                                                                    1620
ccctaccctg atcctgttcc aaggtggcaa ggaggcaatg cggcggccac agattgacaa
gaaaggacgg gctgtctcat ggaccttctc tgaggtacct gaaaggaagg gcaggtgcat
                                                                    1680
                                                                    1740
gaagggtgca gaacagtagg tgggctttca agccctaccc gggtttgatt cacagctctg
                                                                    1800
ccacttgccc attagctttg agggtgtgga ctagttacta gacctcatgt tttaattcat
                                                                    1860
ttagcaaata tatattatgt gcagacctgc tagtactggg taacaatcat tagttaagat
ttggtctcag gccaggcacg gtggctcacg cctgtaatcc cagcactttg ggaggccgag
                                                                    1920
                                                                    1980
gctggcagat cacctgaggt caggagtttg agaccagcct gaccaacatg gagaaacccc
gtgtctacta aaaatacaaa aatagccgag tgtggtggcg catgcctata atgccagcta
                                                                    2040
                                                                    2100
tttgggaggc tgaggcagga gaatcgcttg aacccgggag gtggaggttg cagtgagctg
                                                                    2160
agattgcacc attgcggtcc agcctgggca acaagagact ccatcaggga aaaaaaaaa
agattctgtc tcgaaggcca ctgcacctat tgtctgtagg tgttaggttc cctgtcagtt
                                                                    2220
                                                                    2280
aattggaggt aataacccct ggcttacagg gttgttttgc agattacatt aaataattta
ggtataattc ttggcacggt gattggcaca taatgggtat ttaactatta gttgactttt
                                                                    2340
ctgggtacct aaaaaagagg aaggttaggg aagatttttg tcctttgctt actccttcct
                                                                    2400
ttcccagact ttgtgtaaaa tacctcttac ttcccaggct ctttactctc ccttccaacc
                                                                    2460
cagatcctga cgtgtgcatc tcttttgtgc aggagaatgt gatccgagaa tttaacttaa
                                                                    2520
atgagctata ccagcgggcc aagaaactat caaaggctgg agacaatatc cctgaggagc
                                                                    2580
agcctgtggc ttcaaccccc accacagtgt cagatgggga aaacaagaag gataaataag
                                                                    2640
atcctcactt tggcagtgct tcctctcctg tcaattccag gctctttcca taaccacaag
                                                                    2700
cctgaggctg cagcctttta tttatgtttt ccctttggct gtgactgggt ggggcagcat
                                                                    2760
gcagcttctg attttaaaga ggcatctagg gaattgtcag gcaccctaca ggaaggcctg
                                                                    2820
                                                                    2880
ccatgctgtg gccaactgtt tcactggagc aagaaagaga tctcatagga cggaggggga
                                                                    2940
aatggtttcc ctccaagctt gggtcagtgt gttaactgct tatcagctat tcagacatct
ccatggtttc tccatgaaac tctgtggttt catcattcct tcttagttga cctgcacagc
                                                                    3000
                                                                    3060
ttggttagac ctagatttaa ccctaaggta agatgctggg gtatagaacg ctaagaattt
tcccccaagg actcttgctt ccttaagccc ttctggcttc gtttatggtc ttcattaaaa
                                                                    3120
                                                                    3180
gtataagcct aactttgtcg ctagtcctaa ggagaaacct ttaaccacaa agtttttatc
attgaagaca atattgaaca accccctatt ttgtggggat tgagaagggg tgaatagagg
                                                                    3240
cttgagactt tcctttgtgt ggtaggactt ggaggagaaa tcccctggac tttcactaac
                                                                    3300
cctctgacat actccccaca cccagttgat ggctttccgt aataaaaaga ttgggatttc
                                                                    3360
                                                                    3369
cttttgatt
```

```
<210> 12820
<211> 3369
<212> DNA
```

<213> Homo sapiens

<400> 12820

gagagaagtg gagatcctga tgtttctcag tgccattgtg atgatgaaga accgcagatc 60 cagtaagttt agttcacttc tcagactcaa ggttagatct aatgcccttt ggaggtgctt 120

```
tgcttcatgt taagagagtg gcaatcattt ggtaaatttg tcctacgttt aattccaagg
                                                                   180
ctgaatttga acttggactt ctatcccctc cctgtctcct atttcaaagt gccccatgaa
                                                                   240
                                                                   300
360
tttcagtcac tgtggagcaa catataggca acattttcat gtttagtaaa gtggccaaca
                                                                   420
caattettt etteegettg gatattegea tgggeetaet ttacateaea etetgeatag
gtgaggagac tgcctttctt tcttttttt tttttgtaag actgtgttga tagacttgat
                                                                   480
tgtggaaacc acagtcccaa cagttgcaat cccaaacatg tttctccata cccttcttcc
                                                                   540
                                                                   600
atatctcata cctaatgaat tatatatgta gctcagatga taacagttta cagagactgt
tattgtagag gtagggaatg tgttggtggt ctacatatat ccacaagtgt gtattatttg
                                                                    660
ggggctgaaa tccttgggtt ggtttggaag taaattccct gtgtaaggct ttttatgttt
                                                                   720
ccttcgacat cttctttctg tatttagtgt tcctgatgac gtgcaaaccc cccctatata
                                                                   780
tgggccctga gtatatcaag tacttcaatg ataaaaccat tgatgtgagt gctctttccc
                                                                   840
                                                                    900
ctttctgttt cttgggtccc ttgtgggtga ttttgtagtt gtgctctcca ttcactagga
                                                                    960
ggaacaacag tgcttcaaaa tggatgtcac gggcactgtg gttcattatg agagccgggg
gagagggaac accaggatga ggaattagat gctaaagtct gaaccttccc aggaggctat
                                                                  1020
                                                                  1080
gtggatccag ctgacttttc ttccctgtat ttggcaggag gaactagaac gggacaagag
                                                                  1140
ggtcacttgg attgtggagt tctttgccaa ttggtctaat gactgccaat catttgcccc
                                                                  1200
tatctatgct gacctctccc ttaagtgagt agtgcaaagg gagggatggt ggaaatggag
1260
                                                                  1320
cacatggtaa ccaaaggcat ctccctctcc cctcttaaat atctatactt ccactttcct
tgatccatta tttttttca gcatattaaa taatatattc ttttcagata caactgtaca
                                                                  1380
gggctaaatt ttgggaaggt ggatgttgga cgctatactg atgttagtac gcggtatgta
                                                                  1440
                                                                   1500
aagacctggg cagagggtct gagcagggaa atcactttga gtgatacata cagggacatt
                                                                  1560
tagagaactt tctgggccct gcaggtacaa agtgagcaca tcacccctca ccaagcaact
                                                                   1620
ccctaccctg atcctgttcc aaggtggcaa ggaggcaatg cggcggccac agattgacaa
                                                                   1680
gaaaggacgg gctgtctcat ggaccttctc tgaggtacct gaaaggaagg gcaggtgcat
                                                                   1740
gaagggtgca gaacagtagg tgggctttca agccctaccc gggtttgatt cacagctctg
ccacttgccc attagctttg agggtgtgga ctagttacta gacctcatgt tttaattcat
                                                                   1800
ttagcaaata tatattatgt gcagacctgc tagtactggg taacaatcat tagttaagat
                                                                   1860
ttggtctcag gccaggcacg gtggctcacg cctgtaatcc cagcactttg ggaggccgag
                                                                   1920
gctggcagat cacctgaggt caggagtttg agaccagcct gaccaacatg gagaaacccc
                                                                   1980
gtgtctacta aaaatacaaa aatagccgag tgtggtggcg catgcctata atgccagcta
                                                                   2040
tttgggaggc tgaggcagga gaatcgcttg aacccgggag gtggaggttg cagtgagctg
                                                                   2100
agattgcacc attgcggtcc agcctgggca acaagagact ccatcaggaa aaaaaaaaa
                                                                   2160
agattctgtc tcgaaggcca ctgcacctat tgtctgtagg tgttaggttc cctgtcagtt
                                                                   2220
                                                                   2280
aattggaggt aataacccct ggcttacagg gttgttttgc agattacatt aaataattta
ggtataattc ttggcacggt gattggcaca taatgggtat ttaactatta gttgactttt
                                                                   2340
                                                                   2400
ctgggtacct aaaaaagagg aaggttaggg aagatttttg tcctttgctt actccttcct
ttcccagact ttgtgtaaaa tacctcttac ttcccaggct ctttactctc ccttccaacc
                                                                   2460
cagatcctga cgtgtgcatc tcttttgtgc aggagaatgt gatccgagaa tttaacttaa
                                                                   2520
                                                                   2580
atgagctata ccagcgggcc aagaaactat caaaggctgg agacaatatc cctgaggagc
                                                                   2640
agcctgtggc ttcaaccccc accacagtgt cagatgggga aaacaagaag gataaataag
                                                                   2700
atcctcactt tggcagtgct tcctctcctg tcaattccag gctctttcca taaccacaag
cctgaggctg cagcctttta tttatgtttt ccctttggct gtgactgggt ggggcagcat
                                                                   2760
gcagcttctg attttaaaga ggcatctagg gaattgtcag gcaccctaca ggaaggcctg
                                                                   2820
ccatgctgtg gccaactgtt tcactggagc aagaaagaga tctcatagga cggagggga
                                                                   2880
aatggtttcc ctccaagctt gggtcagtgt gttaactgct tatcagctat tcagacatct
                                                                   2940
ccatggtttc tccatgaaac tctgtggttt catcattcct tcttagttga cctgcacagc
                                                                   3000
ttggttagac ctagatttaa ccctaaggta agatgctggg gtatagaacg ctaagaattt
                                                                   3060
tcccccaagg actcttgctt ccttaagccc ttctggcttc gtttatggtc ttcattaaaa
                                                                   3120
gtataagcct aactttgtcg ctagtcctaa ggagaaacct ttaaccacaa agtttttatc
                                                                   3180
attgaagaca atattgaaca accccctatt ttgtggggat tgagaagggg tgaatagagg
                                                                   3240
cttgagactt tcctttgtgt ggtaggactt ggaggagaaa tcccctggac tttcactaac
                                                                   3300
cctctgacat actccccaca cccagttgat ggctttccgt aataaaaaga ttgggatttc
                                                                   3360
                                                                   3369
```

cttttgatt

<210> 12821

<211> 313

<212> DNA

<213> Homo sapiens

```
<400> 12821
                                                                       60
ttatgggagc aaagtaaata atttatttt taaaaaagca actgtatctt tttcaactta
                                                                      120
ctttttggaa gtaatgatgg aagtacatct tcttggcccc tgcagaggtt ttagctagac
                                                                      180
ttcctaatac tggcagtgaa taagccccac gttgggtgct ggacagcatc catcactccc
acccacttag tattccaccc aacactgctt cacaccttcc tctggaacat tttcttaaac
                                                                      240
                                                                      300
aataccccac cacagaggag ggtgttcttt ctcagctttt cttaaattac cagtgactgg
                                                                      313
atgccttatg acc
<210> 12822
<211> 398
<212> DNA
<213> Homo sapiens
<400> 12822
ctcccacctg tctttcccag accagatggg tttggggtgc tctgcagagg actagctctg
                                                                       60
cctggttttg gcttgtcctc tggtgtttct ttatttacac tcctctgccg ccaaagacgc
                                                                      120
                                                                      180
cggccagggg ttgcaggcac tgagctagat ccacttaaaa tgctggaagg ctttgatgta
                                                                      240
cagataccag gagatggctt tgagcgactg agcctgatct ttctgggcaa caggtgtttg
                                                                      300
tccacagagg ggtacaagct gggtggggag agcactgtag gatcaagggc agtgtcattc
ttgttctctc taggctcttg actatggctt gatggtgaag agtttttttc ttgtggagtt
                                                                      360
                                                                      398
gggcaggctc tggccttcct cttgagcaga agagtgcc
<210> 12823
<211> 1214
<212> DNA
<213> Homo sapiens
<400> 12823
aaaaaaaaat tctgtctcga aggccactgc acctattgtc tgtaggtgtt aggttccctg
                                                                       60
tcagttaatt ggaggtaata acccctggct tacagggttg ttttgcagat tacattaaat
                                                                      120
                                                                      180
aatttaggta taattcttgg cacggtgatt ggcacataat gggtatttaa ctattagttg
acttttctgg gtacctaaaa aagaggaagg ttagggaaga tttttgtcct ttgcttactc
                                                                      240
cttcctttcc cagactttgt gtaaaatacc tcttacttcc caggctcttt actctccctt
                                                                      300
ccaacccaga tcctgacgtg tgcatctctt ttgtgcagga gaatgtgatc cgagaattta
                                                                      360
                                                                      420
acttaaatga gctataccag cgggcaagaa actatcaaag gctggagaca atatccctga
ggagcagcct gtggcttcaa ccccaccac agtgtcagat ggggaaaaca agaaggataa
                                                                      480
ataagateet caetttggea gtgetteete teetgteaat teeaggetet tteeataace
                                                                      540
                                                                      600
acaageetga ggetgeagee ttttatttat gtttteeett tggetgtgae tgggtggge
agcatgcagc ttctgatttt aaagaggcat ctagggaatt gtcaggcacc ctacaggaag
                                                                      660
                                                                      720
gcctgccatg ctgtggccaa ctgtttcact ggagcaagaa agagatctca taggacggag
ggggaaatgg tttccctcca agcttgggtc agtgtgttaa ctgcttatca gctattcaga
                                                                      780
catctccatg gtttctccat gaaactctgt ggtttcatca ttccttctta gttgacctgc
                                                                      840
acagcttggt tagacctaga tttaacccta aggtaagatg ctggggtata gaacgctaag
                                                                       900
aattttcccc caaggactct tgcttcctta agcccttctg gcttcgttta tggtcttcat
                                                                       960
                                                                      1020
taaaagtata agcctaactt tgtcgctagt cctaaggaga aacctttaac cacaaagttt
                                                                      1080
ttatcattga agacaatatt gaacaacccc ctattttgtg gggattgaga aggggtgaat
agaggcttga gactttcctt tgtgtggtag gacttggagg agaaatcccc tggactttca
                                                                      1140
                                                                      1200
ctaaccctct gacatactcc ccacacccag ttgatggctt tccgtaataa aaagattggg
                                                                      1214
atttcctttt gatt
<210> 12824
<211> 3370
<212> DNA
<213> Homo sapiens
<400> 12824
gctggccgag gacctgaagg tgcagctgga gcacgtgcag actcggctgc gggagatcca
                                                                        60
```

gccctgcctg	gcagagagcc	gggctgctcg	tgagaaagag	agcttcaacc	tcaagagggc	120
tcaggtgtgt	gcaggggtga	ggggccaggc	cagggtggtc	cacggtcacg	gacctatcct	180
gggggcaagc	ggctcaaggt	tgaggaccct	tgcccttagc	caggcctctc	ctgccccagg	240
aggacatctc	acggctgcgg	cgcaagctgg	aaaagcagag	gaaggtggag	gtctacgcag	300
atgccgacga	aatcctccag	gaggagatca	aggagtacaa	ggtggggctg	tgggccaagt	360
tgtgccctat	ccacctgaga	attgtagatg	caggattgct	gagactagtg	gagagtctgg	420
ggaccctgga	agtaatgtag	ggcagcagaa	agtgggcagc	acagtggtca	cagagtcaaa	480
tgctgtttgc	tgtacatgta	ctgtgagcca	ggcacagtgc	ttggctgggt	gtgggttggg	540
aggctaggaa	ctggccctgg	tctctgactt	cttgaaactg	acagtcaggg	gaggaggcag	600
ccaagtaatt	ctctcatccc	agatgtgtaa	tatgatggca	gaggccagag	gggctgaggg	660
gactcagggg	aggcccttcc	cctggccctg	gggtcagcag	gcttcctgga	gtgaatgtca	720
ccacagcaga	cctgaagaat	aggccagacg	tggctgtgag	gaacgggagt	gagtagcttt	780
aggcaaaggg	aacagcagat	gtggacgctt	gagcggaggg	gttgctggga	cagcaccgga	840
ggttgtaatc	agaggagcca	atgtggagag	gttgggccgt	gtcccctccc	tgaagagtgc	900
ggtacgccag	gttgagacct	caaagggttt	taaacaggag	agtgatgtgg	ttagatttgt	960
tgttggtttt	gggctggaag	aggtagactg	gaggcaggga	aattgttaag	gtattgcttt	1020
cactgaggcc	cccccacag	tagatgggtt	caggagacat	tcagaggcag	aattgcttgg	1080
actcgggggt	ggatcgaatg	catggagtga	gggaaaggga	acacttggag	gactcctggt	1140
ttcctggttt	gagaaactag	gtggatagtt	agtaccattt	agggggttag	gaggcctgcg	1200
ggggagcagg	ttctatggga	tggtgtcaaa	ggatgctgag	aaggtgcctg	tgggacccct	1260
ttgggaggct	gggaaggtgc	tcaaggcaaa	agggccgggc	tggagaacag	gcttggggaa	1320
tgtcagtaga	ggcagaggtg	gaagccacat	atgacttggt	catcccttgg	aagcagttga	1380
gccttgaagg	gcagaggcag	ctggaggcag	ccatggggta	gaggcaggct	tgggagcctg	1440 1500
ttcagtgctg	gtgtgtaggg	tcctgggaga	caggagtgat	ggcagggagg	ctgctgaggc	1560
ggcaggctgg	gctgggattt	tagcaggctg	gaggagcact	gttgggggat	getgagttga	1620
gtcaatccat	gtctggagtt	ggaggtgaga	ccctcctggt	ggcggaagag	aggicleagg	1680
ctaagaaggg	acccacggca	gggtctctgg	ccagtgtcga	ggctgggccc	agicigagggi	1740
agagagaaca	gatttctagt	tgcattgcca	ttccagctgt	gacttagcaa	gtgcaggtga	1800
agaggtagac	aagattggga	tttcaccaga	ggcggccagt	ggggcaggag	atyaayeeee	1860
aaggcagagt	ccaggerggg	eetgtgggte	atasttats	tgaggggaca	cttggcagct	1920
atcactgccc	agtgatgaat	eeggaetetg	cegacticea	gtgttgagac	taggagata	1980
gcacctcagt	ttgctcattc	atagagtget	egicettace	tccagggtta	acttaggate	2040
aggtgcagtc	tecagtgtgg	raggerrage	taggaetteet	cctgctgtca	gcccggggcc	2100
tgggcactgt	cagagitgit	cccaagetga	gentectta	tggcccaggc	ccacattttc	2160
tgcccctgct	gradeacccg	caagaaggac	gcagccccca	ccaagtgctt ggaagtgccc	caagtgcaac	2220
tgcttcgagt	gegraegagg	attacateat	atctacatca	gctgaacctg	aaactcaggg	2280
geggeerreg	grycccacga	gatagagagat	atacacacat	ctcctcccca	cccaaatct	2340
gactetggaa	caccatggac	caracacat	gracecare	cctgcccatc	tagttggttt	2400
agreggeeeea	gtggatggta	atagacataa	gatcagccaa	gcttcgttcc	atcttttcct	2460
agagaccccg	gegeaegeea	adddddacact	accetacaga	aaaggtctgc	ctgagaggcc	2520
taaaagccaga	agaggagttg	actgagette	ccggaaactg	gccctaacct	atctatctcc	2580
ataggageee	cctaacccta	aggaaaattc	cccagactat	gatctaccct	agagaaggct	2640
cactacatac	ctactggctc	acaaatgagg	accagtgage	catgtccttg	ttccttgttt	2700
garactgrac	tacagacccc	aggaagactt	tccttcaccc	accatccccc	taacctcggc	2760
aggactgggc	tcctataaaa	ttccctggac	accttggtct	gactettata	ccaagggatg	2820
aaggeccceg	ccttttggca	gatgggggga	tcacttqctt	cctttgggaa	gctttaaggt	2880
tactacaatc	accttcctca	tcttqcaqqt	gcctgaacca	acatcatcag	tttctattct	2940
aatcaggccc	cttcccaatc	tccatttctc	tgccaagccc	atttaccccc	acctcatgca	3000
tcccaaggct	ctactgggtc	cctggaccta	accetgettt	catcctggtg	gccttaacta	3060
cagtggaggt	ggaacttccc	aggaggggaa	gggacagacc	agccccagcc	gctgggccaa	3120
cttccaatca	ttccaqctaq	aagagcttcc	ccctgacacc	ctgtgactga	gcctgtgtcc	3180
tatctaccta	cccagccatg	ctccatcggc	tgtgagggca	gtgcccggag	aggccagagg	3240
gttggagctg	cagggacccg	tttggaccca	cagcctctgt	tctagagatg	cttgtatagg	3300
ctgttaattq	tgatgaataa	acgttcaacc	ctcggcctgc	agccagagta	gccaggccgc	3360
gcaccccaaa		-	_			3370
<u> </u>						

<210> 12825

<211> 789

<212> DNA

<400> 12825					60
aaaggccggc ctgaactgga	tcctgcggac	cgcttctcag	cggcttcacc	cccacaccac	60 120
tcgaatgcac agatcgggac	acctcagctg	ggtgacttcc	ctcgttgcaa	teggeetegg	120
gagcggtgcg gcgtgtaccg	agcggcgccc	ctgggctcag	cgcgctgcag	gcgccccggg	180
cggatccttc accgaggcag	gactggggct	ggcgccagag	ccggtgcgga	gcggtgttgg	240
ttcaggcgct ggcgacagtg	ctatggccac	ggcaggggcc	gcgtgcgtct	cagcggtggc	300
gccttcggac cctattggcg	cccgggactt	aagcggggcc	gccgctgctg	gaccaggacg	360
aactggagaa ggagacgcgg					420
gcacgctggt ggaagcgcgg	gccgcggcag	gggaggacat	cgggccgcag	agaaagtgcc	480
gatggcctgg ggcagcggtg	cgagggtggg	aaaaacgcag	gatattgcat	catagagacg	540
cggccacctt cgcccctgga	gagcgccagt	ctcaggagcg	ccgcaccggt	cacgggtgga	600
ggtcagccag gcctccgtaa	gcgcggtccc	cttccaggag	tagccttcgc	ctgggctctt	660
gagtagatgc caagtaattc	cgcatcgtct	ctctagatat	ctgcgctaaa	ggccacccgg	720
tctccttatc agaggggcaa	aactctcctc	gtgggtcttc	atacctaata	aaagtcggca	780
tcaaaccac					789
<210> 12826					
<211> 157					
<212> DNA					
<213> Homo sapiens					
<u>-</u>					
<400> 12826					
tcatgaggtc aggagatcta	gaccatcctg	gctaacacgg	tgaaacccca	tctctactaa	60
aaatacaaaa aattagctgg	gtgtggtggt	gggcgcctat	agtcccagct	actcgggagg	120
ctgaggcagg agaatggtgt					157
	-				
<210> 12827					
011. 4607					
<211> 4687					
<212> DNA					
<212> DNA <213> Homo sapiens <400> 12827					
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc	tctttgcttg	cgggcgagcg	attggtgcgt	gctttgggcc	60
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca	gagcggctac	cccgaaagct	gcgggccgag	cttgaggccg	120
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag	gagcggctac ggcggtgata	cccgaaagct gctccagtgg	gegggeegag ceeccaaege	cttgaggccg ttggtttctt	120 180
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag	gagcggctac ggcggtgata	cccgaaagct gctccagtgg	gegggeegag ceeccaaege	cttgaggccg ttggtttctt	120
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg	gageggetae ggeggtgata caccageate	cccgaaagct gctccagtgg tgagagaaag	gcgggccgag ccccaacgc gggtgagccc	cttgaggccg ttggtttctt cagtctccag	120 180
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctccttgtg ccttcttcta cggagcactc	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc	gcgggccgag cccccaacgc gggtgagccc aggtcttttc actccataaa	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc	120 180 240
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctccttgtg ccttcttcta cggagcactc acccactttc ttaactccca	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga	gegggeegag ceeccaaege gggtgageee aggtetttte actecataaa caaåtttget	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt	120 180 240 300 360 420
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctccttgtg ccttcttcta cggagcactc acccactttc ttaactccca	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga	gegggeegag ceeccaaege gggtgageee aggtetttte actecataaa caaåtttget	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt	120 180 240 300 360
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctcttgtg ccttcttcta cggagcactc accactttc ttaactccca ctgctctttt gagagccccc gaaagtctag gtttttacca	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt	gegggeegag cecceaaege gggtgageee aggtetttte actecataaa caaåtttget taggeecaat tgtetettet	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac	120 180 240 300 360 420
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctcttgtg ccttcttcta cggagcactc accactttc ttaactccca ctgctctttt gagagccccc gaaagtctag gtttttacca	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt	gegggeegag cecceaaege gggtgageee aggtetttte actecataaa caaåtttget taggeecaat tgtetettet	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac	120 180 240 300 360 420 480
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctccttgtg ccttcttcta cggagcactc acccacttc ttaactcca ctgctcttt gagagcccc gaagtctag gttttacca tttaggaatc agcttagcat	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg	gegggeegag cecceaaege gggtgageee aggtetttte actecataaa caaatttget taggeecaat tgtetettet gatttette	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa	120 180 240 300 360 420 480 540
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctcttgtg ccttcttcta cggagcactc acccacttc ttaactccca ctgctctttt gagagcccc gaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg	gegggeegag cecceaaege gggtgageee aggtettte actecataaa caaatttget taggeecaat tgtetettet gatttette ttttttaat	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa ataggatgc	120 180 240 300 360 420 480 540
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggga gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtce cctccttgtg ccttcttcta cggagcactc acccactttc ttaactcca ctgctctttt gagagcccc gaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaaagctgtg ttgaaagatc	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttct gatttctttc ttttttaat agttccagtc	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa ataggatggc ctagctctgt	120 180 240 300 360 420 480 540 600 660
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccggggtcc cctccttgtg ccttcttcta cggagcactc acccactttc ttaactccca ctgctctttt gagagcccc gaaagtctag gtttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaaagctgtg ttgaaagatc cactaatcct ttgaaggagt	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaåtttgct taggcccaat tgtctcttct gatttctttc ttttttaat agttccagtc cagttcctt	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag	120 180 240 300 360 420 480 540 600 660 720
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc acccacttc ttaactccca ctgctctttt gagagcccc gaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaåtttgct taggcccaat tgtctcttct gatttcttc ttttttaat agttccagtc cagttcctt gaagtaacat	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttcccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca	120 180 240 300 360 420 480 540 600 660 720 780
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc acccactttc ttaactccca ctgctctttt gagagcccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg ctcaattatt	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa	gegggeegag cececaaege gggtgageee aggtettte actecataaa caaåtttget taggeecaat tgtetette gatttette ttttttaat agtteeagte cagtteeett gaagtaaeat aggaeettag	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttcccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg	120 180 240 300 360 420 480 540 600 660 720 780 840
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc acccactttc ttaactccca ctgctctttt gagagcccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca gggcaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg ctcaattatt agcatttagc	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaåtttgct taggcccaat tgtctcttct gatttcttc ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cactcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag	120 180 240 300 360 420 480 540 600 660 720 780 840 900
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc acccacttc ttaactccca ctgctctttt gagagcccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg ctcaattatt agcatttagc tgatctaacc	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttc gatttcttc ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta agtaaatggc	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cactcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta	120 180 240 300 360 420 480 540 600 720 780 840 900 960
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc acccacttc ttaactccca ctgctctttt gagagcccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac tggcaggata	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gacagctaaa	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttc gatttcttc ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta agtaactgc gtcacctgcg	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta cagcactggg	120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctggggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc acccacttc ttaactccca ctgctctttt gagagccccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac tggcaggata agatacctac atggaattat	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct ccaaaattct	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gacagctaaa tttcaattga	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttct gatttcttct ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta agtaactgcg gtcacctgcg aaatgatcct	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta cagcactggg ggaaatggat	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctgggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctcttgtg ccttcttcta cggagcactc acccacttc ttaactccca ctgctctttt gagagccccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac atggaattat taatgtagag atggccctgt	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct ccaaaattct tttattttgg	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gacagctaaa tttcaattga tagaaagaag	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttct gatttcttc ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta agtaaatggc gtcacctgcg aaatgatcct ggctacaccc	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga tttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta cagcactggg ggaaatggat ctcttgatct	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctgggaa gaagcacaag tccgtctcat ccggatctg tccgggtcc cctcttgtg ccttcttcta cggagcactc accactttc ttaactccca ctgctctttt gagagccccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac tggcaggata agatacctac atggaattat taatgtagag atggccctgt taacccttca acctcagctc	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct ccaaaattct tttatttgg	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gacagctaaa tttcaattga tagaaagaag gtgtttgtg	gcgggccgag ccccaacgc gggtgagccc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttct gatttcttc ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta agtaaatggc gtcacctgcg aaatgatcct ggctacaccc aacctttct	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga tttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta cagcactggg ggaaatggat ctctgatct tctcagattc	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140 1200
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctgggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc accactttc ttaactccca ctgctctttt gagagccccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac tggcaggata agatacctac atggaattat taatgtagag atggccctgt taacccttca acctcagctc caaactatac ctccatgagc	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct ccaaaattct tttatttgg gtggatcatt tcctagaagg	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gacagctaaa tttcaattga tagaaagaag gtgtttgtg cagtgaaatc	gegggeegag ceccaaege gggtgageee aggtettte actecataaa caaatttget taggeecaat tgtetette gatttette ttttttaat agtteeagt cagtteeet gaagtaacat aggaeettag cetaaaetta agtaaatgge gteaeetgeg aaatgateet ggetacaeee aacetttet tateteeag	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga tttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta cagcactggg ggaaatggat ctctgatct tctcagatc aggttgtaa	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140 1200 1260
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctgggaa gaagcacaag tccgtctcat ccggatctg tccgggtcc cctcttgtg ccttcttcta cggagcactc accactttc ttaactccca ctgctctttt gagagcccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac atggaattat taatgtagag atggccctgt taacccttca acctcagctc caaactatac ctccatgagc gcctccacqq gtatgtaagg	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga catttctcct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct ccaaaattct tttatttgg gtggatcatt tcctagaagg gatatgttg	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gacagctaaa tttcaattga tagaaagaag gtgtttgtg cagtgaaatc tgagagtggt	gcgggccgag ccccaacgc gggtgagcc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttct gatttcttc ttttttaat agttccagtc cagttccctt gaagtaacat aggaccttag cctaaactta agtaaatggc gtcacctgcg aaatgatcct ggctacaccc accttttct tatctccag tatcccag tatcccag	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga tttctccac cactcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag tttagggaag ttacttgtta cagcactggg ggaaatggat ctcttgatct tctcagattc aggttgtaa gttgggctta	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140 1200 1260 1320
<212> DNA <213> Homo sapiens <400> 12827 gccggctaga tatggcgtcc ccggcgggaa gctggagcca cgctgggaa gaagcacaag tccgtctcat ccgggatctg tccgggtcc cctccttgtg ccttcttcta cggagcactc accactttc ttaactccca ctgctctttt gagagccccc gaaagtctag gttttacca tttaggaatc agcttagcat gcaagagtgg tgaaatctga aaagctgtg ttgaaagatc cactaatcct ttgaaggagt ggaaggaaca ggacaaacta gaagtgcaaa gggtagactg cctagtatta gtgtcctctg agctgttgtg gccacagaac gttataacac tggcaggata agatacctac atggaattat taatgtagag atggccctgt taacccttca acctcagctc caaactatac ctccatgagc	gagcggctac ggcggtgata caccagcatc tccagatcga atctagacaa tgggaatttc tcttcacttc aatacaaata agtgagcttg tactttgttt tggcctgaga cattctcct gcacataagg ctcaattatt agcatttagc tgatctaacc attgagagct ccaaaattct tttattttgg gtggatcatt tcctagaagg gatatgtttg taaatcaact	cccgaaagct gctccagtgg tgagagaaag ttccctcctg gtcaagagtc tcgtggatga caggcacacc tcacaggttt taggaatccg tgtttgtttg gtagcatgtg cgctgggcct tattttgcca agaactagaa atcactatga caaaggcaca gcagctaaa tttcaattga tagaaagaag gtgtttgtg cagtgaaatc tgagagtggt tttaggcttg	gcgggccgag ccccaacgc gggtgagcc aggtctttc actccataaa caaatttgct taggcccaat tgtctcttct gatttctttc ttttttaat agttccctt gaagtaacat aggaccttag cctaaactta agtaaatggc gtcacctgcg aaatgatcct ggctacaccc aaccttttct tatctccag tatgactga aaaaattgt	cttgaggccg ttggtttctt cagtctccag ccatcattcc tcccagggcc tgtgcagttt tcacccttga ttttctccac cacctcaaaa ataggatggc ctagctctgt atgtgtaaag agaccagcca aaagagattg tttagggaag ttacttgtta cagcactggg ggaaatggat ctcttgatct tctcagattc aggttgtaa gttgggctta tttgaaatct	120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020 1080 1140 1200 1260 1320 1380

```
1560
aaaaaaaaaa aaacagtttc aaagcactgg agttacgact agtatgtggg tctcctgata
cctttagcag tgctttaccc ctggaaccaa tgattgtgat gtgctttcta acaagctggg
                                                                    1620
                                                                    1680
aatatcattc ttctcatttg atttttctgc ttcagaaccc agaactagtt gcccggctgg
                                                                    1740
agaagattaa gatacagctg gccaatgagg aatataaacg gatcacccgc aacgtcactt
                                                                    1800
gtcaggtaag gacatgctct tcagtacgtg gtctaggtag cccctcagag tagggccctg
cagtggaaga agatacagag tttagaaaaa acatggaaac ttggtttcta tactgttcag
                                                                    1860
ggaccatagg aagtctgcat acaaacaaca cagttcccat ctcattcact gagactctgg
                                                                    1920
gctgagatgg tgaccaagtt ttaaacgtca tagaagtggg agttagccgg gcacggcgct
                                                                    1980
                                                                    2040
catgcctgta atcctagcac tttgggaggc tgaggtaggt ggatcacttg aggtcgggag
ttcgtgacca gcctggccaa catggtgaaa ccccgtcttt acaaaaaata caaaacttag
                                                                    2100
                                                                    2160
cctggcgtgg tggcgggcac ctgtaatccc agctactcga gaggctgagg caggagaatc
acttgaaccc aggaggcgga ggcagaggct gctgtgagcc aacactgcac cattgcactc
                                                                    2220
2280
tgggaatgaa tcttggaggc tttttttctt cttctttttt ttttttgaga tggagtctca
                                                                    2340
                                                                    2400
ctctgtcacc caggctggag ggcagtggca ggatctctgc tcactgcggc ctccgccttc
caggittaag tgattettat geeteageet eecaagtage tgggattaea ggeatgeace
                                                                    2460
                                                                    2520
accacgccag gctaattttt tgtattttta gtagagacca cgttggccag gctggtcttg
                                                                    2580
aactcccagc ctcaaggtga tcctcctgcc tcggcctccc aaagtgctgg gattacaagg
                                                                    2640
tgagccactg tgcccagcca ttcgagcatt tcttctgaca gggctcccta ctactctatg
                                                                    2700
gcatgctcct accctggaac aggagagtag atgggtactg gcagcctatg tcctctccc
                                                                    2760
gaaatgcctg ctctgtagtc cagaaaagag tcaaaatggt tccagacaaa agaatccatg
gggagggcag agttaatatg ttggggaata gagagggctg agccagactg tcaatggatg
                                                                    2820
                                                                    2880
ctctctgagc tgcttctatt ctgaatcatc ttctttttct ttttcccagg atacaagaca
                                                                    2940
tggtgggact ctcagcgacc tgggaaagca aggtgaggta ctaggagatc aggcttctaa
                                                                    3000
aaccttttcc tgagatgggt catgacactc aggcttgttg tttgactgaa acccagttgg
                                                                    3060
tgggggagcc atgagataag agcacctcct agagaatgtt gaactaaagg tgccctctct
ggctcctccc caaagtgaga tcattgaagg ctctggtcat caccatcttc aatttcattg
                                                                    3120
                                                                    3180
tcacggtggt tgctgccttc gtctgcactt accttggaag ccaatatatc ttcacagaaa
                                                                    3240
tggcctcggt gagtaggcac tgggcagggc agggtgccct ggtgggggtg ttagtgggta
                                                                    3300
agggaggacg tatgtgaaag tgccttgcac aggttaggta ttgaacagat atttatgcca
ttaataaggg gagcattaga gctttccagc agtcacggga ggttaggtaa taaccccagg
                                                                    3360
                                                                    3420
agaagccaca ttctctttc ttcccctccc ccaacttaga gggtggttgg ggggctctcc
atcctcatta aagttgctgg ggtacagagc tggttgttgg cctgcatccc ttaagcctgg
                                                                    3480
ttctccccat ctccagcggg tgctagctgc attgatcgtc gcctctgtgg tgggtctggc
                                                                    3540
cgagctgtat gtcatggtgc gggcaatgga aggcgagctg ggagaactgt aactggtgct
                                                                    3600
tcatcatcaa gtctagagaa gactttgggg gcttcaggct ccaattggca gtcaccgact
                                                                    3660
                                                                    3720
cagtcaaccc atcagacttt ttgtattcag ctccagttag tcagaagacc agcccaggcc
                                                                    3780
agctgctgtt tctgtgggga gccctaatct tctgtgaatt tccaaaggga gcattggagg
                                                                    3840
agattgagat aacacatctt taaaacagaa agaactggtc ttggtctatc agtacctctt
cctgaatctg gtacccatct gccttctcca gttcattcta aacactgctg ggactagggt
                                                                    3900
                                                                    3960
ttttccatca ggagcaaatg gaatccaggc cttcccagaa gtagaccata ctgccttgaa
                                                                    4020
cttgtccata tgtacaaact gatcaccagc tttctccata catttttaat gcagacctgt
                                                                    4080
aattgagttc agaagcctcc aagaaaacag aaaggatccc ctttctccag tttgtgctgg
aagaggagct gatcagagac atcaaataag agaaagatgg gttgctagag gatggtagaa
                                                                    4140
ctggaagcaa ggcagctacc tttttgcaaa aggaaatggt gttaggcccc ttttccagaa
                                                                    4200
gataagacag actcatagag attaaatgat cactatggtc cttcttctgt taaatggagc
                                                                    4260
                                                                    4320
caaagacgcc tatgttgttc tgaagtcttg taatgtttaa cttctgagaa cttagattag
                                                                    4380
tggtgtgatg atagagtctg tataacgcat tgaaaagggt atcaggctta gttatttatc
                                                                    4440
caataaatat ttattgtatg cagggtattc ctattttaac tcctgtgaca acacaaagca
tagcgatttc catagttcta actgttcagg gtctgctcct cctggtacac tctttttggt
                                                                    4500
                                                                    4560
tcactgtatg tactcctgtt gtctttttt ttttttccaa agcacttttc tgttttcata
                                                                    4620
aattatatac tcattcactc agtggacact tcctctacaa tgtttgccag tttctgttag
                                                                    4680
ttgggagaag tgtcagctgt gaaaagaaaa agtaggtggc attttacagt gtttccagta
                                                                    4687
```

acctgag

<210> 12828

<211> 1032

<212> DNA

<213> Homo sapiens

```
<400> 12828
                                                                      60
agctgacatg gtagcgcacg cctgtagtcc cagctactca ggaggctaag gtgggaggat
cacttgagcc tgggaggcag aggttgcagt aagctgagta agccaagatc atgctattgc
                                                                     120
actctagcct ggatgacaga gtgagacctt gtctcaatga aaaagcaggg ggcactggga
                                                                     180
ggggagaacc aaatgcccta tcctccagtt ctcagcatat agaagggagc tctctcatct
                                                                     240
gctagccact cctgcctcac tgtgccatgc tttctgtaat gcactctggg tccagggact
                                                                     300
                                                                     360
gcttggcagg aggtgggaag aacaagaagt ttagggcctt cccagtttct tagggcctgt
                                                                     420
ctggagaggg aactagcgtt tactgagttt ttacgatgtg ttacacacca tgtaaagccc
                                                                     480
tttacctaca ttatttctta taccccaaac agagagcaaa taagtatccc cattttttag
tcacatagag ttccagagtt gccacagtta catcgcaaag tcaggatttg aatccagtgc
                                                                     540
                                                                     600
ggaatgtcct agattcagtg ggaccaggag ctgggggtgc tagcagaggc tctcatctcc
                                                                     660
                                                                     720
ccagggtctt gtcagtcaga gtcctaaacc cttcaattaa ctatccctct aatcccagct
                                                                     780
gaagcctggg taatacctcc caccaagagg tatctgtgtg gaacctggcc ctatttaggg
                                                                     840
attaggtgat ggagataaat ttccatggca aacggccctc gtccccgttc gtttgcagag
cacaacaatc cagattaagg tacagagttt gggttttatt tggagattag ttggtattac
                                                                     900
                                                                     960
aggtgatggt gataccaaaa cccaatgctg ctatacctgc ctccatccca gatctgtcag
                                                                    1020
gttgtctcca cagccccaca tcagagggca tccaatctga tctttgtgaa aattaaatca
                                                                    1032
acataagccc ca
<210> 12829
<211> 21833
<212> DNA
<213> Homo sapiens
<400> 12829
tcgacgagcg caggatgtga gctcacagct tgggactgct gaggggcagg cggctgcagg
                                                                      60
                                                                     120
ctaggggcgg ctcggagtcc gctggccacc cagctgagag gagaggcgcc cccggggacg
gtgagagccg ggcccgccga tgccctcggg gaagggatgg acggcccctg ctggagtaga
                                                                     180
gcgagcccgg ccgggtcctg ggggaaaagg cgcgggcggc gtaggggaga tggagagctc
                                                                     240
cgatctccca cggagggtgg gcgtgagaac cggtgtgggt ttctcggtag tgaggagtgg
                                                                     300
tccgggctag agaagagccc acaccggcca catttcccag gactttttgg gtgacgctta
                                                                     360
                                                                     420
acctttacac ctagggtttc tgctagatcc gccactctag ccctcagctt tcctcccgcc
gtcctccgtg tctgacggat ttctgggtcc ttcttccttt tagacccctc ctctttccac
                                                                     480
ctccgcggct gtttgccctt tgttgtgctt gggttcccat tagcttcgtt gcgtgagcca
                                                                     540
cggatccgcc cttagccccg ggcatcccca aatatccaca cacaaagtgc ggaaggaaga
                                                                     600
gcactgtggc tatcagtgga aacttcattc tcactggaat tactttctgg ggcgtcacct
                                                                     660
gccacagaat tcctggaacc cattggtctg ggcggaatgt gattgacgtc atccaggggc
                                                                     720
tcaaagcaat tgctttgtag gaaaggaaga gattagctct ggatccgccg acctctcttg
                                                                     780
gcaggcctat cctttgagct cctttgcatt ggcagaacat gtatgtgtgc tttctctgat
                                                                     840
cctgggaaaa ctaggactag acacaaaata cacagggaac ttgctaatac ctgttagaga
                                                                     900
                                                                     960
ggtggattta ttcctttgag gtgggcggga aaagggaagg tgatctcata ccattctagt
gtttcttagt cattggcaac ctcctggtga gggctcacct cccataccca acccctgtgg
                                                                    1020
caaatgaaag agtctcccag acaagccgcc aaaggaattc actgcttcac acagcaccca
                                                                    1080
cgctggctgt ccacttcctt ggacattctt cccagggact tacctaaatc ttttcaggga
                                                                    1140
caatttcagt ctaacaaact gacgtatgtt aaatacttaa aatgtgcatg gcattgtgct
                                                                    1200
gagcaccatt aggggaacac agcggtaaac ttgggaaacc agtgccctgc ttctgggttg
                                                                    1260
                                                                    1320
cacttacaag gcatgagcaa ctgtaaactc ctgcatgtga tgagcattcg gtgaaatcat
                                                                    1380
tccacttttt ttctgtctcc attattacca atgtggtcca ggctgccatc atctcttctt
                                                                    1440
gcctagacta ctgcttcctc tggtcttccc actttctctc ttgcaccttt acaattcatt
ctctacccag cagcaagtta tcttttcaaa atacactaca agcaagtcag atcatatcac
                                                                    1500
                                                                    1560
teceetgett geaaceetee aattgattea tataetatat ageaattagt atgaaateea
                                                                    1620
cctttgttat catctaacgc ctgccttccc tgacttgaca tcaaaccaac ttccccctac
                                                                    1680
tgtctgtgca ccagccatta tgaccgtatt tctgatcctc aaacttgttt taattttgtc
                                                                    1740
attgttgaga tgagatttcc ctatgtcacc caggctgact ttcccaggct caagcagtca
                                                                    1800
tcccacctca gcctcccgag cagctgggac cacaggcatg agccaccata tctggctaat
                                                                    1860
ttttttttat ttgtagaaac aaactctcac tatgttgccc agactggtct tgaactcctg
                                                                    1920
ggctcaagca atccacccac ttcggcctcc taaagtgcta ggattacagg tgtgagccac
                                                                    1980
cacacccgcc ccctaaaact tgtttctaac aggaactttg cacttactct tccatctgtc
                                                                    2040
tacaatgctc tcttcaaacc tcagctgaaa tgtcaccatc ccaaagatgc ttttcctgtc
```

cctttgtcta aattagtgcc tctccctaat cactctcata tcactgtttt attatcttta 2100 ttgcatttat caggttctgg aattatctgc ttatttattt aagtccttgt tgctagtctg 2160 tttccttcca ctagaatgta agctccatgt ggacatgact ttctatatgt gttctcttct 2220 2280 gagtacccaa tgcctggcac gtaggggtac aataaatgct agctttctct ctttttaaaa 2340 attcctgtta tgatgcttct ttgaactgtt tgaaggcaaa gacaatattt tttcattgtt 2400 ccctactgct taacatagta ggcactcagt agtttaattg ctgaatgagt taaatgagct agtacatatt aaatgccaag agatggggtc ttgctatgtt gccaaggctg gtcttgactc 2460 ctgggctcaa gagatcctcc cacctcggcc tactgagtag ccaggagtac aggcaggtgg 2520 cagcacacat ctcacctcat tgtttttaga tttatcctct gatcttttct agtcctttct 2580 tctcccattc ttattgggag ggaagaggag agtagggctg ggctccctct caggaaaaag 2640 aaaggaaaac agccatccta tagctgttct tccctgaaaa atggtgacaa tttcaggaac 2700 ttgggacaag gctggtgcca agaaagggga aggtcaggaa gccccagccg aagcccaggt 2760 2820 aacctgcacc aagaacactg gccggcaccc ccgaccctgg cttactgcat tctctcctga 2880 agctgctttt actttccttc ctgaagccag actctcggtg gtgctcaaaa taaacactgg cacagactgc tctggaggct ggaatcttta gaaaggaagt gcatcctgtc cctctggctc 2940 ctgggaaact cctagactgg ctggattccc agtaggtttg gttggaagtc tgggatcctg 3000 3060 ggaaccttga caagaaagta actggaatct gactggtaga tctctagggt gatctgttcc tetggccctc tetaactggt tecatgggtt tgcttgtctt cctcgctgcc ctgagtggag 3120 ctgagtctca gggaggctga tgaggtgacc agggcaggag tctgggagac tgcctccagc 3180 cctggttcct gctatagtaa aaatggcagg gaggccagac gcggtgattc atacttataa 3240 3300 tcccagcact ttgggagact gaggtgggcg gatcgcctgc gctcaggaat tcgagaccag cctgggcagc atggtaaaac cctgtctcta ccaaaaaaaa aaaaaaaaa aattagctgg 3360 3420 gtgtggtggt gtgcacctgt ggtcccagct actcaggagg ctgaggtggg aggatcactt 3480 gagcctggga ggcaaaggct gcagtgagcc gagatggcac cactgcactc cagcctgggt 3540 3600 gacttagcct ctgccaggga gcagtgcttg ggcttgtcag ggagagaatg agtacggtcg 3660 tgtttctgct attgtctcct cctgggctgt ctcagctggt tcgtgtcttc tcttccctct 3720 cccatgtaca gcactgagat tatgaggete tggcctccae tggccactca etegtgacee 3780 tttccaccac ggcggagcct tccaagccta cctcctgccg tgtggtgatc tacctgcagc 3840 gggagatgtc gggggacacc tgcctgtgcc cagcctcagg ggccaagccc aagctcagtg gcttcaaggg aggagggttg ggcaacaagt atgtccagct caacgtgggc ggctctctgt 3900 3960 actacaccac tgtgcgggcc ctgacccgcc acgacaccat gctcaaggcc atgttcagtg ggcgcatgga ggtgctgacc gacaaagaag gtgaggcact ggggctgccg ctcggggtgg 4020 4080 ggagggcagg aggagttccc aaggaaatga ccagatctag aattcagtca cttttcctct tcactttatg tagggtgtct tcacctggag tccctagtag agcttcagaa ttctgtgaaa 4140 ttgtatatgg aatgctgtgt ttatgcattt tccaggaaga agagccatac ttttaaaata 4200 4260 tttaaatagg acaagattct cataggagcc gtcaccttaa gactgggcag cgggcagaag gccggcagtg gctggtggtt tctgtgttgg gctgggcctg gtaccctgag cctaggcccc 4320 tgtggcttct acagcctgga gggctgtatc ccccgtggga tgtgccagtt ctgggtttca 4380 4440 gagaggaagg gtgaagagca gccatgggcc tgagtgctag aacctccatc cccgcctctg 4500 tcaccctgcg taagggcttt gtgctcgtgg acccccttcc ctgccacctg ccgccagctt 4560 gtcaggtggc ctttgcctgc ctcggaggta cctggcggca aactaaccct gtagggcctt ctgcacccct aggctggatc ctcatagacc gttgtggaaa gcactttggc accattttga 4620 attacctccg agatgacacc atcaccctcc ctcagaaccg gcaagaaatc aaggaattga 4680 4740 tggctgaagc aaagtattac ctcatccagg ggctggtgaa tatgtgccag agtgccctgc 4800 aggtacatgg gtggggcgga gcagggcggg cagatgaggt caggagttgc ccccttcttg 4860 tgggatggag gactctggtt cctggcaggt tgtgtgggag gcgtggttga tgagtgcaaa 4920 cctaatgaga caagtgagat gccacccagg cccaccaacc tggcagccag gtgttcacac ttggcagcgt gagtaggccc tgcttctggt ttctatgctt tgctacccgg attttagggg 4980 gtttttctgt ttttgctttt gtttctgttt ttgtttttgt tttttgagac agggtttcac 5040 5100 tcctgtcacc caggctggag tgcagtggtg cgatgtcagc tcactgcaac ttctgcctcc tgggttcaag tgattctcgt gatttggcct tcagagtagc tgggaatgcc agcatgcgcc 5160 5220 atggcaccca gctaatcttt gtattttttg tagagatgag gtttcaccat gttttccagg ctagtctcga actgctgggc tcaagtgatc tgcctgcctc agcctcccaa agtgctggga 5280 5340 ttgcaggtgt gagctaccgc acccggcctg gatcttgggt tttctaactg ggggtctgct 5400 ttccagctgg cagtttctat tgtcaggggc ctcatgatct gtatctgaca cttcctcacc aagcagcggg tggccatggc agaggggctc cagaggtata cctcgataag cctgggaagc 5460 5520 agaagatect aaagagggtt etetgttetg tgtegeacag gacaagaagg aetectaeca 5580 gcctgtgtgc aacatcccca tcatcacatc cctaaaggag gaggagcggc tcatcgaatc 5640 ctccaccaag gtaccaggac ctctgagggg tgcgggccgg ggatgccagt cccctggcct 5700 ggcccctcac tctgaactcc ttcacagccc gtggtgaagc tgctgtacaa cagaagcaac

5760 aacaagtatt cctacaccag gtagggtgcg tcacagggct caacagacac tgggcagcag acccaaggag tactgcctgt actcccagca cggtcggcgt gggtctgggc ctgggtcttg 5820 5880 gaactggctg tgccaagttg gggaaaaaca gaaagtagaa gggaaattgg gacagaggcc 5940 tttggaactc agcagggtgc cctggctggg atataaatga ttgaaggtga aatgcgccct 6000 caacgtgtat cacgaaggca gcatggcagg tgttttcaca cgtgtcatcc taccgggtgg 6060 aggggatget aggaggeegg tgagetggga gteececaag eeageetgtg eagtteacae tgggccgatt ccctccccac accctccagg ccatgtcctc tccataggcc acagttaggt 6120 agacgcaggt ggctgcaggt tcagagtccc aaaccctccc tatgattccc tgtggccagg 6180 catattgcca ctgtcacccc cacagtaagg gaaggaatgc ctcccactga catagcagcc 6240 ttgtctcctt ccttccaggg ttagtgaggg gagacctcct tcctcagctg tccctacttt 6300 6360 qacttaaaac caactgagtt ccttttcctc acaggccccc caacccagag ggtaccctat gatcctttct ctcctggccc cctggcatct tgctttcatt tcggcaggac aggatggggg 6420 6480 aagggaggga ggggagggcc ccacttgtct agcaccctcc cttggactgg aacctcactc 6540 ccagccgctt ggccctcatg tttttttcag caactctgac gaccacctgc tgaaaaacat 6600 cgagctgttt gacaagctct ccctgcgctt caacggccgc gtgctcttca tcaaggatgt 6660 cattggtgac gagatctgct gctggtcctt ttatggccag ggccgtaagc tggcagaggt 6720 gtgctgtacc tccatcgtgt atgccacgga gaagaagcag accaaggtgt gggggattgc 6780 ccctgcctgg gtaggggagg acacacaccc actgtgcggg ggacgtggtc gggctgtgac 6840 cagcacggag caaaaggggc atggacttgg ctctttttc caaacacggt aatggtgctg 6900 ggcaaggaca aggccagaac aaggggtgtg gggaatggac gggaactgct ttgttcctga 6960 cagcgcaggg caggggccgt tgaccaccag gaagtagcct agtacagtgg gaaggactgg gtctttgaag ttggcccaat tcaggtttga acgctggctc acaccacttg ccagttttct 7020 7080 gactttggat aagccactta agccatctgg gcctcaggtt cctcatttgc agacatgggg 7140 atgatagtat gaatttaacg agatatgaaa atgatacaac tctttggagc agcagtgtgg 7200 tgtagaaaca gcttgggctt tcgtgttaga atgctgttca gatctcctgt ctgagccagg 7260 gacacaggtg ggcacagcac ttgagcccag gagttcaaga ccaccctgga caacatggtg 7320 aaaccccgtc tttacaaaaa atagaaaaat tagccaggca tcgtggcaca tgcctgtagt 7380 cccaagtact caggaggctg ctgtgggaag atcccttgag cccaggagtt tgaggccagc 7440 ctaagcaaaa tagcaagatt ccacttccaa acacttttaa taataataaa ataaaatctc cttactggcc ccaaccagct gggggtttct ggctaatcaa cttagtgcca ggtacacagg 7500 aggcatttga taggtgacag tcatcacaaa ctcaggtggc ccctctcccc caggctgcag 7560 tcagttaccc cagagagtag ctgcctcctg tgagtgcagg tcctggagat gatacgctgg 7620 ggtggatggc aggtcatcca ggaagggcca tgtgggtgtg aagagctcaa agtagccaga 7680 cttgccaagc aacttgtcga cccccaaact actccaggtg cctccagctg ggagatctgc 7740 7800 agagggtttg gggaaggcca acttacaggt ggccctgctt ccttctgcgg tttttggtgt aggggtggga gggagggcga caggtggttc ctgaccctat cggtggtgaa agggttcagg 7860 ggcaggtctc cagtggctgg tgatgctgcg acggaagtgg cagcgcacct ggcatcttct 7920 taagtgtgtt gtctttcatg aactcgtgtg acccctcaca acatgcctgt gagacacgca 7980 gggctagagc cactetecee atgtgacaga tgagtgaaca gaageteagt ecaacagage 8040 8100 aggtctggct agaattcagg tgcttgactg ccttcccttt ctccttcctc caggcaggtc atgccggtga cacactgcgt caggcaggca gagaaaggca gcataaccac tcagcatagc 8160 8220 agctgctctg tgtatgcctc tgcttggtgg tttgctgtgt gccaatcttc tgctaagcaa tcacatcttt cccgtaatgt tgacagcaac tctcaggggt tgagctgaac caaccttttg 8280 tacatatggg agctgcagcc cagaagggtt cagcccaagg ctccacagct agcaagtggt 8340 agagctgtgt tgggacctag ctctggccca ccctctatgc ccactagtcc cttggtctca 8400 ggctggggca ggggtgtgga ggatgttggt cttccctgtc ctcatgtctg tagagtacat 8460 cccctcaccc cgccttcgga gggaggctgg ctttccctgg agacggaccg ccacctgttt 8520 8580 tatgagaggt agcggaggcc ttatggagcc tcagggccag ccgctctgac gcatggcttc 8640 ctcttgaaga tgaaaccttg ctccaccttc ttcctcccta accccaggtg gaattcccag aggcccgaat ctatgaggag acactcaacg tcctactcta tgagactccc cgcgtccccg 8700 acaactcctt gttggaggcc acaagccgta gccgcagcca ggcttccccc agtgaagatg 8760 aggagacett tgaactgegg gacegtgtee geegeateea egteaagege tacageaett 8820 acgatgaccg gcagctcggc caccagtcta cccatcgcga ctgaccagac cctcagggag 8880 tcagggcacg ggaggcccta tctcccatcc tgtggaaccc gccccattgg ccaccccatg 8940 9000 ctgctgctgc ctgggtctct gctctagcac ccagaggcat gacaggccct gctcagaggt 9060 cagagggtct gggcagagga gggaccacat tcccctgcct tgcccctgag cacttctgga gactgcgtcc tgtcctatct gctcaccatc accettcctg cccgacggag ctgcttctgc 9120 9180 tccctggggc atatggactg acccacctcc tgctgagaac cttcccctag gccctgtgca gaaggctact gccccttagg cctcagctgg gggaaaggca gttctggtgc tgtagaggcc 9240 9300 ctggtgcaga aagtgggacg tcttttttcc taaggtgttt aagcacaggc ttgataagtt tggtttttaa aaaataatct aggaaatgaa-taattctaaa tctagtaatg aggaaactga 9360

```
9420
gcatttcttt tgccctccag ggtgccaaga ccctacatat gacagaaccc ttggcccttc
                                                                    9480
tccatgcctg tgggatctgt ttctttaaag cactttgtac tgttattcag gaggttgata
                                                                    9540
atctccttga cccatgtctt tctaccctaa tccccacttc cctgcagaat caatctgagg
                                                                    9600
gaggggataa agaggaagca ataaaaaaaa aacatccgac agagcagctc tggctttgca
                                                                    9660
gcctggccag cagctcagag tgcaccgagg agggaaggat ggctaagctg ggaccggcag
tcctcacagg gtgcctgtga gaaaggacat tttaccccca catcatagtc acatcactga
                                                                    9720
                                                                    9780
ctcctaggtc tagcacgact gctctttgtg attctcttga gtacccttgg cttccagcca
tgctgtcctc acatacggta aagccaaaga gctgtcacat gggccagaaa catgagccac
                                                                    9840
ggcaggaaga ccgtggagcc cgtgggcact gcatggtgtt ggctggcatg cccatcagct
                                                                    9900
gaggacagca aactcccagc agcccctaca gaggtggcac atgcttggcc acacatctac
                                                                    9960
                                                                   10020
tccctgccca caccatctat gctcttggtt ggtgctggct gggatggcgg ttctgcccag
                                                                   10080
tggtgtctct gagcgcggga tgacaggagc aaccgaagca ccctgaaggc cttcactcct
tgttgggtaa ctcagccatg gagatgccaa gcactagcca ggaggtgagt tcctctttag
                                                                   10140
ggctttggtt ttcattcctt tttgtttggc ttggccaaac cagaattcag cttatctgaa
                                                                   10200
                                                                   10260
ttattttcca aaggaatgct gtcagggagg gactgttctg ccagcctaac aaagcaacgt
agccacgtat agtacccact ttctgctctt tggagagaac acaggttatc aagttcatct
                                                                   10380
ctcttgacta ctcttatgat agctgatgcc acagagccta tgggcaaatg ccagacccag
                                                                   10440
ggttagacac aaggacctga agtgacatga cggcgggaca ggggaaatgt gactttctaa
                                                                   10500
ttaggcattt tatgttagtc acagtcttga atgtataaac agcactaaga ctctcaggtc
                                                                   10560
aggtaccttg gtgatcagct actagttctt ccagccctca ttgaggtaac aagataaaga
                                                                   10620
caaatccact tetttggcca aattcagget ttggetttat gaettteeca cagagactgg
aatgcgtcag cctgagacca ctggcctatt ttctcagctg ccctcttgag gtcctttaac
                                                                   10680
                                                                   10740
actcaaattc ccagctcccc actgaggtgt tgtgatgctt gccttttgac ctccccatcc
                                                                   10800
cctttagtcc ctgcttacta ctttgacatt cacatcctca gtgtctcagt cttttttgcc
gagaaagcac agtagtctgg gactgggcat ttatcttctc tgactgaaaa tctctccttg
                                                                   10860
                                                                   10920
gtcttaagga aaatactaac attgaactca ctgacatgat cttagcttct ttaatcagac
tttgtgactt aaaagtttgg gggttttctt tgaaagtttc cagccctatt cagaaagcaa
                                                                   10980
ctcttggctg tgtgcatttt tcaactccaa gcagcccagg ggtaagtaaa caaagtatgg
                                                                   11040
atgaaggtca gattttcttg tcagtttctg agaaacctgg cagcctgctg ttaacaacac
                                                                   11100
aggccagtat tgggttttat tgaatttggt atgtgaccaa ggtcggccta aaggatggcg
                                                                   11160
caggtcctgg gcaggaaaga atttttcctt tatcacataa ctgtaatatt tggttgctca
                                                                   11220
gcataagtga tggaagcaaa cactaatttc taataaaatt gtgttaaact caatggtaca
                                                                   11280
gagccatgtt tacagtgagc aggccttgac cagcttgcgg ccatgggctg agttcctgtg
                                                                   11340
cttctgttta tcatctgacc ttgtgttcta gccaggtcgt aagcgcgact gtactgttgc
                                                                   11400
cctgcaaccc cagctccccc tggaggacta aggacaagaa taacaagggc tggaactgtg
                                                                   11460
atttaatatt aattcaagaa aactacctct aacaatcact gcagtggcgg aggaaaagaa
                                                                   11520
atcctaagaa ttggggcaag atgcagcaca attcatctct ggctcttgga aatctgagag
                                                                   11580
aagctcagga agtagcttga cttagtcatc aatccatacc taaagctgct cctcagccaa
                                                                   11640
attcctgcat ttgtggtctg gatgcttggc agagtcatgc tgagggctgg cacacccatt
                                                                   11700
gctccaggaa acccgactgg cttgcctccc tcctctcctg ggcctagcga ggccagaaat
                                                                   11760
ggcaatggtc ggtcagtgct aagagccagg ccactccgac cctgacactg gcctccctct
                                                                   11820
11880
gagaggcaca gtgaccctag gagatgtcca gccagcctcc aggctgagag ggaaacaggc
                                                                   11940
acatgcccta ccaggggggc agctccctgg aagggcagca aagaaagcag tcaagggcgc
                                                                   12000
acactgggtc agaaggggag cctgagactc tgggagcaga aatggcaagg gtggccaagc
                                                                   12060
gtgcactggt ttactgatca aacctcacgt gacaggccag gaaactcctc caggcctgtg
                                                                   12120
                                                                   12180
gcagctgaac acagttcctt ggtggagagg tttactggaa catggtgtag gcagggctta
tgaggaggcc agccttggag gtgtcccaca tgggtcttct gaagaaaagt tataccaccc
                                                                   12240
ctccccacaa aaagaacccc acaatcaaat taagagaccc actgtggccc atgatgggga
                                                                   12300
gagaagagtt ctgcagcaat tgtgggatga gagttgttct tcccggtgac caagcctggg
                                                                   12360
                                                                   12420
cacttggggc ctcagctggc ctaccagtga aggcctgagg gtggtgtctt ctcatcttta
ttgctttcca gggagaaggg aggaatccga acatcaaagt gggagccatc aggtctttca
                                                                   12480
aagcggaacg tgcccctaca gtcagaaaga agctggttta gaaggagcca gggctgaggc
                                                                   12540
ctcctaagga tctggatggc cccatgccct cagctgccag ccacagagga catgtgagcc
                                                                   12600
tgagctctct tctatctcta gctcatgaca ggatgactgg tccagagacc caagagcccc
                                                                   12660
tcatggttat ccatgaaaag aaaaacacag ctgcagtggc tcacgcctga aatcccagca
                                                                   12720
ttttgggagg ctgatgccag cagatcacct gaggtcacct gaggtgggga gtttgagacc
                                                                   12780
                                                                   12840
agcctgacca acatggagaa accccgtctc cactaaaaat acaaaattag ccgggcgtgg
                                                                   12900
tggcgcatgc ctgtaatccc agctactcgg gaggctgagg caagagaatg gcttgaacct
gggaggcgga ggttgcagtg agccaagatt gtgccattgc actccagcct gggcaataag
                                                                   12960
                                                                   13020
tgaaactcca tctcacaaaa gaaaaaagga aaacacagct gtccagattc tggcctttag
```

atacatactg cataagctag ccaactgcat tttcaggtaa aggagtgaaa caccaaggga aaaaacccaa ctatacaagc aattctgcag catcaaatca ccagacctct ttagcctaag 13200 tcctcagtcc acaaatcaca gggtactggg aaacaggcgg taatagaaaa tcagacaagt cccacacaac aatatagcag ataaggctcc ctctaagaat gtaacttggc ccagagttaa 13320 tggcaagete taagetetea ettttetgae etacagette tgtttgtgga getgggtgge 13380 ccctactgct gtgcacactc actcaccaca tgtgcccact ggaagcctgc agcgagacgt ggctgctata ctggaacgca ggctgctcct tggataacac tggttcctgt aaaggtttag 13500 gcaaaatggg tcaggccaag ccccagggac atgtttcctg caccccaggg ttacatgctg actgccagtt catcaagact ggatgtcccc tacccagcca ccaccacagc aggcactccc 13560 atagcatgat acacttectg ccagtacete etcecataga tggccatttg getgggcett 13620 ttatgctggc tctgggaaag ataatctcag actgaatgtc cgaaggcact gggcaaagga 13680 cctcctctgc agcccgggga acacagtgag accccatctc cacaaaaaaa aaaaaaaaa 13740 aaaaaaaaat ttaaactaac caggcatagt ggtgtgtgcc tgtagtcctg ctactcagaa 13800 agctgaggcg gaggattgct tgagcccaga aaagtaaact atggtcgcac cactgcactc 13860 cagcctgggt gacacagcga gaccctgtct ctaaaaacaa aggacctcct gtggagatat cccctccagt gtccattcac acatgctggc ggggaccacg gcaggtactc tgcaaacctc tgctgcttta attctcctaa tgatcataag ataactggtg tgatccacat tttaggagta 14040 aggaactaag attttggtta aataacttgc cgaaagttat gctaatatat aactcagctg 14100 14160 gaatttgaag tgactaccta aatccaaagc cttgttctta ttcacttgcc caactgcctc 14220 cccagtcctc gctgactttg ataaatgctt gttgaatgtg gcccctgaca ccagtactgc 14280 ttgtgacttt atttctcagg agacagggtt gggtaggcag ggattataaa atcagatctc ttcaaggacc agcagaggat gtaaacatgt aaaggggcaa agaggcaaga ccacagggat tggtgggggt gtgtgcccca cctaacgaca ttcaaatttt agtttttaaa agacactata ccagttttaa aaactacaca agttttgact tcagactcac ttgggtttaa attgaggccc 14520 tgccactact agctatggga ccatgggctg gttatttaac ttctcagtct cactcttttc 14580 atctatgaaa tgggtttcaa gaaacatatc tcatgtagtt gttttaagat ttctaaccca 14640 aaacaacaca atgtattcac aaagtgagcc tctgtctata acaacaaagg agaaggaagc catgcgctaa gcccccaggc ttgccacaca ggaccagaat tactagacca aggatgctca 14700 ccctgcccac tacccctcgg cctcgcactg tctccaaggt gccagagaga ctgaatatcc 14760 tccagtgccg ctcccggagc tgtaccacat cactgtcaag gttctccaaa cggatacagt 14820 14880 agcgccactg aggtgggtgt gggagagaga gtttaaaaaa aataaaattt gggtaaccct cctcagaatt ctgtgcaaag caaaagtcaa caaagctgac acatgcactg cacaggttcc 14940 gctctcgtca gaaggtgggc tcccccacct ccaccctgac ccccaggcac accccacaag 15000 ctccccttct cccagacagt gacactcacc cagtacacgt gggaattctg ggcttcctag 15060 ggagaaaaca aaaagaattt aagtcccaca gggcaagacc aagtgtgttc caatcaacat 15120 ctctccagtg cagttgatgt attccaggaa ggttgcagac agaccaagct gagagtatct gtgggataag ggtgatagct gaaccatggc ctacacaccc acagggaggc aacatccctg 15240 tatccactcc tggcctcccc actcctcatc ccttcaagat caccaacaga gctggatgcc 15300 aacagaaatc agttacaggg ctcttacctt tttcactgcc ctcctcacca gccctgcccc 15360 ctatccttgc tgccctgagc ccctgtcctc ctcctgtctc ccattactgt cccttgctat 15420 aatactttaa gttggcctcc tccactacta taaggtcctg gaagacaggg acggtgtttc 15480 atttatattt gtatccaagc atgcactgac tatacgtact tttctgacct atagcttctg 15540 tctgtggagt tgggcggccc ctaccactgc acatgcttac agccaggcga tgtgtaagtg tctataatgt gtaaaaagtg ttatgcctac actgctttaa ataattatgt gtatattctt 15660 cataaacatg gctccctttg agcaagaggg aagagacagg ataaaggatt ccttcctggg 15720 acctatgagt tttcctgccc gctctaggtc ttggtgtcag ccactgtcta gaggctactc aaccccaccc aacacatgcc accacttgga agcagaacca cagggacatg gtttatattt 15840 agactccctt cccccggcag tcaccttaag gacaccatac accttggggc ctacccctgc 15900 tagaaggggt ccaggctggc cacataccct catgcccatg tagaagggga tgacagtgac 15960 acgtatgttc tcagttgttt cccgatgaac atcggagagc tccagccagg ggtgattctt 16020 ctcttgccag gcccttagcg tctcccgagc cacaaaagga ggtgctgggg caagatacaa 16080 ttggttagtc caattgtgtg ttgtggatac aattgtatct agtccaatca cacaatagtc 16140 cagtgcgatt gcccctccta gaaaaccctc cctagtggtg gcccaggcaa acaaggtgct 16200 catacatgaa gcaaaagttc aggctggaag aaggcacagg actgctacca agaataagcc 16260 ctgaggagct agtgtgatac aatgggaaaa caatcggact ggcagttaag agccctggtt 16320 ttcagccctc actctgctac tagcaacctt gagtcccttg tcatcatccc tgatcctcag tttccatatc tgtaaggaaa taactgccat ctgtcatctg tcaggtatga cacctatgag 16500 gcatgacagc tctaacagga ggttgaaaag ggttgtggaa atagagcgtt ggaattattt ctttttttt ttttttttg gagacggagt cttgatctgt tgccgggatg gagtgcggtg 16560 gcatgatctc agctcactac aacctgtgcc tcccgggttc aagcaattct tcagcctcag 16620 cctcccaagt agctgagact acaggtgcac gccaccacac ccagctaatt tttatatttt 16680

tagtagaaac agggtttcac cacattggcc acgatggtct tgatctcttg acctagtgat ctgcccgtgt cagcctccca aagtgctgga gttataggcg tgagccacaa gcacccgggc 16860 ctttttttt tttttcctg agatggagtc tcgctctgtt gcccaggctg gaatgcaatg gtgcaatctc ggctcactgc aacctccacc ctcctgggtt caagtgattc tcctgcctca 16980 gcctcccagg tagctgggat tacaggcgcc caccaccacg cccagctaat ttttgtattt ttaqtaqaqa cagggtttca ccaggttggc caggccagtc ttgaactcct gacctcagat gatccacctg cctgggcctc ccaaagtgct gggattacag gcgtgagcca ccgtgcccgg ccctggaatt atttctatga tattctttga tgaaaaggcc ctcccattcc acctcccctt cttgagagag attacctttt gtctggtcat acagaagaaa tctttcaaag agttcatgtt 17220 ggatgggaac ctgatcagtg gaggtgtagg ggaggatgtc ttcatggctg acatagtcca 17280 17340 17400 ttgagaagaa acattaactg gccttgttcc agtatgggat aaccctgata tcatacctct cagcatcata atccctccca gtggatgaca ggacatcaga atcctctccc tgagacacac 17460 cagactcctt cttgacgggc accattcaaa tgctaactac tcacctggga tggcatagag ggcccgactg tcatcatggt tagccaagaa ggtcacagct tctgtctgag atctctgaga ctaaggcaag aagtgaatca gtggtgaaac catgtctctg ctaaaaaagta caaaaattag gctggtgtgg tggcagatgc ctgtaatccc agctactcgg gtggctgagg caggagaatc acttgaaccc gggaggcaga ggttgcagtg agctgagatc tcaccactgc actccagcct 17760 17820 ggcgacagag tgagactcca tatcaaaaaa aaaaaaaaag acgtgaatca gggctttgtt 17880 ggccactgtg cagtccaagg ccttggggac caagactgac ctgggctctg tttgaccccc 17940 ttccctcct ttgtccccat tgggatgcag gactttccat ggagaggacc cccaagccca gccatcttgc ttacttacta tatgtgggca gtcacgagca tcaatcagca cctgatagta 18000 18060 agtgtgagtt ttgcctttca cctccttgga gccatggcca gcagggttct ctgctctatg 18120 gggtgggaga aggaggccaa gatcacccca ggagaaatgg aagctgtggc tgactcagct 18180 ccctactcct cctcacctaa acaggctggt ctctgatcta aaggggcttt agcaccagct ggacacctgc tctgcagcac ctcagctcag ctgctcctca gttggggcaa ataatagagc 18240 18300 atggaagacc atggtatgga gccatcatct gaccgtgtgg atacctctta aaagaagggg gccatgttga gaaaatcaaa ttgccacctc agtccccagg gcccagagta ctcttgtctt 18360 cttatatccc agggactgtc tgtgatcact taatggggct gaaccttttc tgttttaatg 18420 tattctaggg atgatgtgag attgagggaa agactccagc tgaacatcaa gaaatcaaga 18480 18540 agacttgtcc cccaaatgcc ctctgggata ctcataatga aaattaggaa tggcttagga aagcattctg aggaggccta aagggactct ctgacttaga ctatccctgg cactcagcac 18600 ttttgtctcc atgggtctta gtcccagaga agtactctgg ggatgtttcc aaggcctagg 18660 aggacgctgt cttcacccct agtaccccaa ttacatatgt ctgccatctc ctcctgagga 18720 tactgtgagg cacaaccaca gggaaactta cttttctgga gctgcagaag ccacatcccg 18780 gtcatacagt ctggcctgcc agggaaacag gacgacacct cggtagccaa aaatgctatg 18840 aaggaaaagc tggaaggaaa gaggggcctc agtgagtctg cagtccagca aatccatcca 18900 ggtgggcccc agaccacaaa gcaacacagg tggaggcaac tccagcacaa ggtcttgcta 18960 cctcttccct tgaagtctgt gatcaaccag accaatgctg gaacactctt atttcttctt 19020 tacctggctg actctactca tcctttaggt aaaagcttag gcctccagga agccttccct 19080 gacctccctt ccacttagca caatgtacag ctattggcca tttgcaaatc gttctttct 19140 agactagaaa ctccacaata gcaggaatca tgtctacttt gctttctgat ttaaccctaa 19200 tgcacaatgc ctagtccatt gtaggcacac agaaaaataa aatgttgaac aaacaaaaag 19260 tcttccttac ctacaatatc ctagaagggc ctaaatctat cccagtggac ccagaacaaa 19320 gctgatatag aaaaagaacc acacatccag agtttaccac actgaagtca attttattac 19380 ggcaaagcat caaaggtata cttttctgaa agctccctcc acggcttccc accatccact 19440 atgttagaga aatcttcagc aacttggcta aacctcacta tagtccacac catccctgtc 19500 cacattaact tggaaagaga acccactgac acattaagtg cattcaaatc caggagaaca 19560 gaaaccctat ctataaaaat ttgattctgg gctgggtgcg gtggctcacg ccagtaatcc 19620 caggactttg ggaggccaag gcaggtggat cacctgaggt cgggagctcg agaccagcct 19680 gaccaacatg gagaaaccgc atctccacta aaagtacaaa attagccaag tgtggtggcg 19740 catgcttgta atcccagcta ctagggaggc tgaggtagga gaactgctta aacccaggag 19800 gtggagcttg cagtgagccg agaccatgcc attgcactcc agcctgggca acaagactga 19860 aactccgtct cacaaaaaat aaataaataa aataaataaa taaaataaaa aatgaataca 19920 19980 aatttgattc tggaatggca ccaaacatca aggtggaatg aatggaacac cataccatgc 20040 aggeetgtga eetaatetga etttttteag aageagagea etetatgaaa atgaaagatg acccagccca atactcacct gcccggtctc atattttcca ttctgttttg gcacctcaaa 20100 20160 cacaccaact gtctccaaca ctttgccctc tggtcggttt ctgagtagga aggaaaagaa 20220 caagcaacag aaaagctgag aaggtaatgg tagttatcca taagaaaaag ctcctaggat actgaggggc cagggcgatg acagcagaga agggtttggg gtagtgggac cagctggagc 20280 aggaaaggct ttcctcctcc ttggtgaaaa cctccacagt ctcccagtgt tagatgtgac 20340

```
cgctcccata ctactgtctt ctctcttcac tgggcattct tcatatcatg ccctcacact
ctgctcaaat gtacccctgc cettgtttct teectaaccc accetectga ceteccacag
                                                                20520
cactttaact gtcttgctca ctttttcaat ttttttagaa ggggagtatc ttttttctt
cttttcttac attttctata tcacaagtca tcaaacaata tcctgctccc tttacatttc
                                                                20640
agttgtgtcc atgtcttatc tttattaaat actgtaaatt ccctgggagc aatgcctgag
                                                                20700
tctgattagc tggtactgcc ccctcagagc ctagtgtaca agaggtgctc aaaaaatatt
                                                                20760
tgtcctgtat tataattcca tgtccatctc ccctctaac ctgtagccct tacattgccc
ttgaaaagct taaacatctc tagatttcct acggcacatc gctctctcaa taccgttttt
                                                                20820
gttcatattc tcacaggggt cttaaattgc aaatagctat catctctccc caatgttcag
                                                                20880
tgtctaatat cagccactaa aatgtcagtc accactctga acagggctgc tctttctagg
                                                                20940
ggcccttcaa ataaaggctg tttttactgt tttgaagatg tgaactttat gcttcctccc
                                                                21000
actgatccac cagcccattt gatccgcctg tcccatccgt ggaaacagtt tccacaccat
                                                                21060
                                                                21120
ccccatggcc tcaaaccccc ttccccaagt cacagataga aaatcgatct ccccaaagtc
acttggaaac ctggggccta cgagggtcca cacccaagag tctcgtttcc cacctctagc
atctttctga ggcagacctt caccaaatcc aaaggctgag ggttcaagcc aatgccctag 21240
ggctgaatta aaaagcttcc ctctgacatc ggtgctgggg accccagccg gggaagtagg 21300
attcacttgg ggagggtaac ctgttccccc ccagggccag ccctgtacaa ccagggctct 21360
gggccgcgct ggcttccctg ctcctggcac atgtcccaga cagcgcaggt cggctccctg 21420
ctcgggaccc tctcccgggt caaactccag tcaccctcag caggcccggg cccctggcct
ccgcactggc taggaacacg ctctctgggc tccaggccca gttcctcgcg ccccctggct
                                                                21600
ccgtcctca ccgggacgag aggtgcctcc gcgtcgtcgt ggtcgacgct ggcgagaagg
                                                                21660
ctccagetce ggccgccgca cagagegget ttgccacegg gccccagtca gcgaceggga
                                                                21720
ccaccagegg etgeccaegg ccaggggeeg eegggetgta caggetgeea tgtecegeee
gagegeeege eeggetgetg acaeagagee egaceegegg eegggeggtt eegeeeeagt 21780
                                                                21833
cccacactgc cccgcgcgc gtcccggccc tcttggcccg cctggtccca ccc
<210> 12830
<211> 1094
<212> DNA
<213> Homo sapiens
<400> 12830
60
                                                                   120
gctcaagggc ctatctaggc ctggtgagaa ggtgaagaag agtggtcact ggcctagagc
                                                                   180
acacatgagt ttttgtccct tggctttgct gcaagtcttt ttggaaagag acaagcatgg
cccagcccag aagttctaga agtccttggc ctcatcttgc ctcaagggca ttgcttagag
                                                                   240
                                                                   300
atttccagaa tgtcattact taatggaaaa tttatagggt ctgcttcctt ttgggacagc
                                                                   360
catcacttac ctggcgtgtg cttggtgcgc agcatcagct atatgtttct ggagctgctt
                                                                   420
                                                                   480
tctaggagaa atctaatcat agaaaccaaa ctgaatggca ttccttggcc tcactctttg
                                                                   540
taccetecat ettgggatee aggetteeae agtgeettta ggeeteeeet eecettgace
                                                                   600
ccatcacact tgtccccatt ggtcactttg gacttgctgg tcctgctgca tggaagccct
ctccagccta ctccacatgt gagtggggtt taaaccccac tgacttgttt ccttgtctgt
                                                                   660
gatgctgtcc ttctaccaat acttgtgtcc agtcacttgg tgtgtcctgt aatctatctg
                                                                   720
tgtctggacc aagactggta cactggaccc aaggttccca gcaagctgat atgtggcttg
                                                                   780
tgtcatttgt ccctgtgtct tctcctatct cactggcctc ctatctccac agcctagtcc
                                                                   840
atggagttgc tttatgtagc aaattctccg tttggagctt ttaaaatagg attatttgcc
                                                                   900
agaactgcat ttacaaaaaa agtttgtgta atcctggttt aaataaatta cacaaagtaa
                                                                   960
ttcactggca gctagggtgc ctagtgtgtg ctaggcataa agctgcttct gaacccacta
                                                                  1020
aaagttcatc ccagaatgat atctccactg agttcttagg tttattacta gagatgaaaa
                                                                  1080
                                                                  1094
aaaaaaaaa aaaa
<210> 12831
<211> 1094
<212> DNA
<213> Homo sapiens
<400> 12831
ctgcctgggc gacagaccct gtctccaaaa aaaaaaaaa aggaaaattc agcttcctcg
                                                                    60
```

```
120
gctcaagggc ctatctaggc ctggtgagaa ggtgaagaag agtggtcact ggcctagagc
acacatgagt ttttgtccct tggctttgct gcaagtcttt ttggaaagag acaagcatgg
                                                                     180
cccagcccag aagttctaga agtccttggc ctcatcttgc ctcaagggca ttgcttagag
                                                                     240
                                                                     300
atttccagaa tgtcattact taatggaaaa tttatagggt ctgcttcctt ttgggacagc
360
catcacttac ctggcgtgtg cttggtgcgc agcatcagct atatgtttct ggagctgctt
                                                                     420
tctaggagaa atctaatcat agaaaccaaa ctgaatggca ttccttggcc tcactctttg
                                                                     480
taccctccat cttgggatcc aggcttccac agtgccttta ggcctcccct ccccttgacc
                                                                     540
ccatcacact tgtccccatt ggtcactttg gacttgctgg tcctgctgca tggaagccct
                                                                     600
ctccagccta ctccacatgt gagtggggtt taaaccccac tgacttgttt ccttgtctgt
                                                                     660
                                                                     720
gatgctgtcc ttctaccaat acttgtgtcc agtcacttgg tgtgtcctgt aatctatctg
                                                                     780
tgtctggacc aagactggta cactggaccc aaggttccca gcaagctgat atgtggcttg
                                                                     840
tgtcatttgt ccctgtgtct tctcctatct cactggcctc ctatctccac agcctagtcc
                                                                     900
atggagttgc tttatgtagc aaattctccg tttggagctt ttaaaatagg attatttgcc
                                                                     960
agaactgcat ttacaaaaaa agtttgtgta atcctggttt aaataaatta cacaaagtaa
ttcactggca gctagggtgc ctagtgtgtg ctaggcataa agctgcttct gaacccacta
                                                                    1020
                                                                    1080
aaagttcatc ccagaatgat atctccactg agttcttagg tttattacta gagatgaaaa
                                                                    1094
aaaaaaaaa aaaa
<210> 12832
<211> 9716
<212> DNA
<213> Homo sapiens
<400> 12832
agagtgcctg gtgaagaatg tgatgggatc actagcatgt ctgcggagag cggccctggg
                                                                      60
                                                                     120
acgagattga gaaatctgcc agtaatgggg gatggactag aaacttccca aatgtctaca
acacaggeec aggeecaace ecageeagee aacgeageea geaceaacee ecegeeceea
                                                                     180
gagacctcca accctaacaa gcccaagagg cagaccaacc aactgcaata cctgctcaga
                                                                     240
                                                                     300
gtggtgctca agacactatg gaaacaccag tttgcatggc ctttccagca gcctgtggat
                                                                     360
gccgtcaagc tgaacctccc tgtgagtagt gtgggcaggg cccagggtgg ccgtcctgga
ggtcgtctcc tgcatgtctc ctggtcaggg cagttcctgg ggggagggta ggagatgcat
                                                                     420
ttggaatcat ggtgagagct gcagggccct tgagtgagtg gtttcagcag ttctgatcag
                                                                     480
                                                                     540
ttgaaatcag ggagaaagaa tgagctaatt ggcttaacaa taactggttt cttagatatt
ggaatcctgg ggaaaattgt gtagaggttg aagcagtggg agaaaggaag gcccacagat
                                                                     600
ctacttccag ttccatggtg agttgaagtc agagcacttg gccatcctag ccccttcatt
                                                                     660
tctcaggtgt ggacatagtt gatcaaggat aagtagacgt agttgatcaa actatgctag
                                                                     720
aggggaattg gcttgctgca gtagtggtca cctagcatca tcgtcactgt cacccggagc
                                                                     780
acacggtggg gaaagatagt gggattacct cgcagggagt gcaagtacat ggaggcgtcc
                                                                     840
                                                                     900
ccagttggag aaaggtggct gtggctgcag ctgcacaggt ggtgttgccc tccctccctc
                                                                     960
tggctacagc acacttgctc ttgtgctttt gtgagcccgc ccctcttctc tttccctgga
                                                                    1020
gagttttcca tatgcccatg tccctagcaa actgttctgc aagcaaacct gtatctccag
ctgaacctca gggagcagat ggaataaatg cttcagtttt tttttcttta aagcaccaaa
                                                                    1080
                                                                    1140
gactaattgt ctttaaattg tcctttgctg tttgccaagt cctgtacacc ccctggcaag
tgcattaggt ggttgcagcc actgacccag actggtgtgt gcacaccaga gccactggtg
                                                                    1200
tgtgcacacc agagccactg gtgtgtagga gcggccttag cctctgccag gcatccttac
                                                                    1260
tcccaagttt aaagtcattg tgtctgtaag aactgtctgg tgctattgct tcactgaata
                                                                    1320
                                                                    1380
cgtgtcaagc actcggggga agataatcag aacagggcag tacgtgtctg ggtcttgaaa
tggctcagga aaggtatgga ggcagaagag gcgccacgct ctccattgac caagatgagg
                                                                    1440
agtggaggca gtcagctgtg ttggcctgcg ggagggagac tgttggggga gctcactgca
                                                                    1500
                                                                    1560
ccaatctcta gctgggctgg acagggtcca tagttgagag tgaaattctc agagcagatg
                                                                    1620
cacagaacca ggagagaagg aactggggac tggagtggaa cccagagcgt tgtgaggccc
ttaggggttg gagggaaggc agaaggccta cagaagagag catttcccca gattccaaca
                                                                    1680
                                                                    1740
tcagaagcta cagggaggtc aaagagatga ggattccgac ctgatcatcc tgttgacctt
taggagggca ttggtgacct taggaagacg tgacacagaa gtagaaacca gattgcgacg
                                                                    1800
gtgtgaatga gaaggtgagg atgtgaagcc accatttcaa gaagcttggc tttgaaggga
                                                                    1860
aacgcatcag tgccagaata gcagaggggt cagcttgtta caagaaaacg cagtgggaac
                                                                    1920
                                                                    1980
 tgaagcaggg agggctgaga aggtgaagac aggagaagga agggctgggg gacttgagat
 tgccgagaag cagcagcatc ccagttgagg ttgagggaac agtgctggcc agcgggacag
                                                                    2040
```

2100

acaagtatgg gtgattggtt aggccatggg gtttgggagt tcaaggtcag tctctgaagt

2160 gcaggctgga gagtggccag gacgttcttg gtccaggcag agtgtgaatc tacctgtccc tatgactgtt gacgtcgccc tcattagctc tgacataaga agaagggact gatccatggt 2220 ggccctgatc tgatgtcttc agagatggga gagtgaggag ctgaggaagg agcttgctga 2280 2340 gtgagagtgg tctcagggca tttggtgggg gctgagccaa aggggatgct tgatcaggag catcatcatg ctaaatctgt attctgggga cttccttctt caggagatgt taataaggcc 2400 2460 accctaaaaa gtattccttg tctgttttct gatgccttct aggtcttcac ccgcattttg atctcctatc atggccccaa accgtactat ccaggctggc agttcctctt cccccaccgt 2520 tctctctgcc ttcaccccaa ttcctcttca ctattctgtt ggccattgag acatgtgaca 2580 2640 cactgtggcc aattcagtgg cctttggcca tagaataaaa tttaaatttc cactgggata gatctattca gacttggttc tcttgggaaa ggaggtcaga gcatagaaag tggcaccgat 2700 2760 agtctgcttc cagtctcccc tcttgaccac ttgcctaagg tgcctgggtg tgcacttgta 2820 gccctcaccc ccagggcagt tccatgagct gtgccaaaac cttacatgta agcaggtggc 2880 ccttgactct ttctcgtgga tgtcagaaca tctcaaaaac cccacaccca taccctgtgc 2940 tggcctttcc aacgctgtcc actaccatcc cgagcagggc ctcagtgctt gctgttagta 3000 tacctgctct cttctccctg caacagcctc tccacctgca gcctgtgcct ctaccgtggg actccacttg gatttggttc tgatacacca cttgaactta attacaggag cacctgtcct 3060 3120 cagtcagagt gatgactcag aaagtttggc tatcggtggg tcaggccaac agcctgagct ggtctagtca ttggggactt gctgtctggg tgcagccccc tgcctggccc tctgtgatcc 3180 tcacacctgg aaacccaggc actgcttgat ctgtccgcac attccttctg tggttgtttt 3240 3300 taaaaatgaa cttagtttta gaataggttt agatttagag aagaagttgt gagaataacg tggtttgatt tcgggcactt taagacgttt acatctgtta tctggctcct tctgtttggc 3360 3420 acttagtaag atctgaaagt ttgagggttg ggatggtgga ttttttattt ttatttttt aaactaagga ttgtgaaggc tgtccagatt tgtcatttgg cagttaacct ggtcagtcag 3480 3540 cagtatctgg atactaaaga atccttagtg gtagactgtg tgcaaatgaa agaaacgtta agtccagtga atttgactag gggtggaaac ttatgctccg cagctcttca tggtgacaag 3600 gaggcaggag tgccagggtc aagggttaca agtggactcc agcattggcg ccaggggaat 3660 ttgcatttta tggacatgta aaatttcaaa tgggacaagt aggacctgcc atgggttgtc 3720 ttactaggtg aggattgctt tttaaaaggc tgcctggttt cccccttatt tattaaaagt 3780 gaaagaatat tttagtatcc ataaaaagaa aaaatgtgca tttcaatgaa ggcagcctat 3840 ttcaagatag agtggttgga aacttgtacg tttccctctg aattactccc cagcatccag 3900 3960 quaccettee eegeteeact ttattttggt gtteeceete aagateactt getgatgeea gtaggagctg tggctcccgt ggatttacct gtggagcagc caggggtgag gtccccaggc 4020 4080 cagcctggcc agcccagcgt ttgtgctgcc tggctgccta ggtgacactg gacttttgct ctctgctctc caggattact ataagatcat taaaacgcct atggatatgg gaacaataaa 4140 gaagcgcttg gaaaacaact attactggaa tgctcaggaa tgtatccagg acttcaacac 4200 tatgtttaca aattgttaca tctacaacaa ggtgagatgt aggggtgggt gtccagctgc 4260 cctggggaga gaggaggga ggcgacggca gtgggcatgt caggagcccg tgggcagggg 4320 tgttgggtgt ggctgggctt ggagtctggc aagaggagac ccttggaggt agaggtaatg 4380 agacctgtgg ttgttcctgt gactgggtgt gggctttttt gctgggagga gggtgctggc 4440 4500 catgttgaac ttgcaagctg tccttgttag cctgaagcat gtgcttctgg tgcccttggg attttggttc ctgagcatgt ctagtagaga aggtgtgagg agaatagtgg cgactcatga 4560 4620 caaagtccat ttgggtgatg taaattgtta ggaaagagcc tgctaaaatg tagttgtgca 4680 qaqqtqtqcc caaacagaga cctccacgtg agagagggtg tgatggggcc ggcgcagagc tcagttgctc tgtgggtgat ggtctgctgg aactgtggac atgactgtca ataactcttg 4740 gccatagatg aagtgtcccc ccgatcctac atgtagacct gaaggtcact tcctaacccc 4800 gtagccaaac ctttcggctc ggctgtgcca tgaagccaga tcatttgttt acagttcaga 4860 ccacagatgt gattaaaatc aaccctttca aatagaacga ctctggaggg agacactata 4920 cagaactcag cttttgacct ctgctggtgt agtgggtaaa aatgcccaga agagatgggt 4980 aggtgagttt cttgaagttt actgtgtttt ttaaagtctc agctctcacc acttaggttt 5040 gagcaaaatg tgcagaccag gctctcagtt tagaactgag tgggaacagc atgttataga 5100 tgaggtgaca gagtgggacc cctcaactag tgtgagatgt gcagtgccca gagtcctggt 5160 gagctgccat gggggtacgt tggggagcat tgctggggcc ctgctaatgt atcatggcaa 5220 gaaatcctgt gtcattcacg tatttctggt gaaattgaat tgtgtcaaag gagggcccct 5280 5340 ttcagtgatt ggctgagctt ggtagatgct taaggcatta ggatggcttc tcagataggc cagagettaa aagatgaggg aggtgeaggt agacaagtgt aggeteagea caeetgtggg 5400 aacacaagcc tctgtgatac ctggtagtgt agccattgtg gctcctttgg gtgcagatcg 5460 gggaaggacc cggaatacga cgcttcatgt tttgggggca gggggtgggt ggcatgggt 5520 gccctgtcta cagaggtggg gaggggaggg ccctctgact ctacccctgt gtctccttat 5580 ccagcctgga gatgacatag tcttaatggc agaagctctg gaaaagctct tcttgcaaaa 5640 aataaatgag ctacccacag aagaaaccga gatcatgata gtccaggcaa aaggaagagg 5700 acgtgggagg aaagaaacag gtagagtact gaaatagcaa gtaaattggc tttctccccg 5760

5820 acctttqtcc cttttccaag tttggtgggg ggctgggagt ggcaggagga tgtgacatta 5880 tatactgcat gccgtgttgg tgtttggaca tgtgagattg ggtttggtgt tggatccatc ccatagggtc atgtggcctt gtggcctctt ctaagcagaa ataattgggc cctgcctttt 5940 6000 ctgagggtag gtgatggact tagggtaaaa ggaaagtgta acttctcaaa gcactttgac gtttgttgaa cacttcaccc tgccagtatc ataggtggtt tttacttttc cattttaagg 6060 acattaacat gaccagaaat cattttaact aacatctcag ttctaaactt tgaggtttgt 6120 gattggaatt accttaatgc actggtgtca gagttatccc tgcttctgat gctcagtcat 6180 ctgaagtgaa agccctcctc atccatctct gcctgtcacc acccccaact gacacagggt 6240 6300 tccaggggcc agctggcaga gctgcccact ctaggaaatg attctgtcta ggaaactctc 6360 cagcagctac tggctacatc ttgtcctttg caactccatg ctgcagaagg gtgacatttg cgaggtggtc cctgagtgtg agttgtttgc ttctctgagc agcagccttt cacctggcct 6420 cccatgctgt tctgaagtgg tggcagaaag ggggttgcta catcccctgc tgcacccaaa 6480 ggtaaccaag gagaactagt ctcacgtgtc accctgtggc tcttgtacct atcagatcac 6540 6600 attcctgatc ctcatgtaag tcacatccct tatccttaca tgaggatatt ggtcctcact 6660 ccctgggacc aggggtttgg gctgcacgct gggcagacag acgtggtggc atctcctatt 6720 ccagtctggg agaagcccag gagttgtgcc tgaggaagga gaattgggaa actcagcaga 6780 atctcaccct tgctccttga gatgcacagg gaacatgggt gctgcttgag ctgatagatg 6840 aaggcactgg gtgtctttgt ccattttcat ggcagccagc atgcacacga aggatgtggt 6900 gacccaggtt atgctcctag acattctcac cctggtccac ccagttttgt tagagctctg 6960 gccataaccc ctcacttttt gcagctggtt gggtgtgcca cgtgaccatt gtgtgttcgg actgcctgca cagctgctgg gaggcagcgc tcgagccagt catgaagggc agcagtccag 7020 7080 ctgcccctg tggttccagg aggtgggggc ctgccagttt ccagaaacct tggcaagggc ggctactgcc ggctccctgc cagaagctct tactcagaag gcagtgcttc tgggaacaag 7140 7200 ggcagctgtg cctggaagct ctgaggagtg ttttcccgct ctctgtcccc tgtcagcatg 7260 tgcttcctgc tccttgagcc tgggcctcca ggcttcatga aggggtcttt gtgcctgagt 7320 tgggagttgc agccaggacg ccctaggaaa tgggaagtgc ggttttctgc tgttctttga 7380 gccccaggga caggtggaag ggtttggcag agtggagtct gggatgttcg tctctcaggc aaatgcaaca cgcgaatgtg cgttcactgt gtgtggtgta tgtccccacg aggtcagcca 7440 gcatgtggat gtcagcatgg tctctaactc gccgtcttat tatgatttgt agggacagca 7500 aaacctggcg tttccacggt accaaacaca actcaagcat cgactcctcc gcagacccag 7560 accectcage egaatectee teetgtgeag gecaegeete acceetteee tgeegteace 7620 7680 ccggacctca tcgtccagac ccctgtcatg acagtggtgc ctccccagcc actgcagacg ccccgccag tgcccccca gccacaaccc ccacccgctc cagctcccca gcccgtacag 7740 agccacccac ccatcatcgc ggccacccca cagcctgtga aggtgagtct cctggactct 7800 ggagggctgc ttcaccaggg aggagagcgg ccctgtcctt gcccgtgctt tacacagagc 7860 ctgtcctggg tcccgggcac tggtgggtgt ttctggggag atcttgctgt gttgaaattg 7920 cagcccagaa acagccgccc cactgactca aaggtcccat aattgtgtca cacctcctag 7980 tgggttcctg cccctgcac ctcttttatt tagactgtgc atatttgcag atgggccatc 8040 taaatagtct ctgaattgtg cctcccctgg gcacttgggg agaggccctg gtgttaggta 8100 ctaagcagcc tccagaggtc ccttggcttc caagtgagca cacagtttta tgctttctcc 8160 8220 tgccacaggc aggtcctgtc ccagctgcag agcagagtgg tgggacacga tctgcctgtc cttggccctt tgcctgtgca attatctttg ggtccattct gtgtgagcga tgggccccaa 8280 8340 gacagggcct ggctttgggg gtgaccctga gggcagctgt gccggctgcc acttctgact gtgcctgttg gcgtccgtgt tcttggcaga caaagaaggg agtgaagagg aaagcagaca 8400 ccaccaccc caccaccatt gaccccattc acgagccacc ctcgctgccc ccggagccca 8460 agaccaccaa gctgggccag cggcgggaga gcagccggcc tgtgaaacct ccaaagaagg 8520 acgtgcccga ctctcagcag cacccagcac cagagaagag cagcaaggtc tcggagcagc 8580 tcaagtgctg cagcggcatc ctcaaggaga tgtttgccaa gaagcacgcc gcctacgcct 8640 ggcccttcta caagcctgtg gacgtggagg cactgggcct acacgactac tgtgacatca 8700 8760 caaggtgggc aggctgtccc tccacatcag aaccttccta gaccttttag tccaagagga 8820 agcccaggcc ctggaacggt ggctgcgtgg atttttcccg ccaactcgaa gaaactcagc 8880 gcccctgct gtctgctgtg ggacgtgctc tgagacctgg tgcttggcca ttgtggctac 8940 agatgcctgt gctgcccctt cccctagtct gaggaaaagc aagacaagcc ctctggcctt 9000 gggggcccag tgccccaggt accttgccca cacagtagat gctccatggg agttggggct 9060 tggcggcctt gccagcctct ttgtggtgga gaaggccttg ctgtctcctc tgtgttggag 9120 gcacgctgta agtgccgaca ttttcaccat agtgttttga ggctttttta gttttaagac 9180 9240 ttgttacgtg tttcttcttc tgggagtgga gtcccaagca tggggcaggc agagcaggga 9300 acagtgctgt gtccctttga ccagctcctg tactgtgtca tcacgatgag ctgggcccag 9360 ccctctccat cagttctccc cgtcatttct ggctcaggct ccgcctcctg tgggttctga gtccacctgc ctgcgagcca ggcaggtgag ctgggatgtt ggcagggcca gtcccagccc 9420

```
9480
tgaggctgag aactggggtg atggcctgtc ccccactag agtcttgacc aaactgagag
ccaagaaacc aacttgctct tctaggcatc cctttcgtct gctgccagcc acttctccat
                                                                   9540
                                                                   9600
9660
cccgtgagta ccgtgatgct caggagtttg gtgctgacgt ccgattgatg ttctccaact
                                                                   9716
gctataagta caaccctcct gaccatgagg tggtggccat ggcccgcaag ctccag
<210> 12833
<211> 269
<212> DNA
<213> Homo sapiens
<400> 12833
                                                                     60
tgggtctcac ataggacttc tcactgtacc tctctttctt gccccataac agactagaag
                                                                    120
tggttggttt tcctcatgtt tcttgtcatt gcagtaagag tgggctcttg aagtttccca
                                                                    180
agggtcttac tttcctgtag tcatgggaag gctgtgggca tagcagtagg tcagtgtggt
                                                                    240
cccttgaggt gcaggtgctg cacaggccca gagtgggtgc aggagtccca ggtatcttat
                                                                    269
ggtgatctcc cttgtggggc catggatat
<210> 12834
<211> 269
<212> DNA
<213> Homo sapiens
<400> 12834
tgggtctcac ataggacttc tcactgtacc tctctttctt gccccataac agactagaag
                                                                     60
                                                                    120
tggttggttt tcctcatgtt tcttgtcatt gcagtaagag tgggctcttg aagtttccca
                                                                    180
agggtcttac tttcctgtag tcatgggaag gctgtgggca tagcagtagg tcagtgtggt
cccttgaggt gcaggtgctg cacaggccca gagtgggtgc aggagtccca ggtatcttat
                                                                    240
                                                                    269
ggtgatctcc cttgtggggc catggatat
<210> 12835
<211> 532
<212> DNA
<213> Homo sapiens
<400> 12835
ttccatatgc ccatgtccct agcaaactgt tctgcaagca aacctgtatc tccagctgaa
                                                                     60
cctcagggag cagatggaat aaatgcttca gtttttttt ctttaaagca ccaaagacta
                                                                    120
attgtcttta aattgtcctt tgctgtttgc caagtcctgt acacccctg gcaagtgcat
                                                                    180
                                                                    240
taggtggttg cagccactga cccagactgg tgtgtgcaca ccagagccac tggtgtgtgc
acaccagage cactggtgtg taggagegge ettageetet geeaggeate ettaeteeca
                                                                    300
agtttaaagt cattgtgtct gtaagaactg tctggtgcta ttgcttcact gaatacgtgt
                                                                    360
caagcactcg ggggaagata atcagaacag ggcagtacgt gtctgggtct tgaaatggct
                                                                    420
caggaaaggt atggaggcag aagaggcgcc acgctctcca ttgaccaaga tgaggagtgg
                                                                    480
aggcagtcag ctgtgttggc ctgcgggagg gagactgttg ggggagctca ct
                                                                    532
<210> 12836
<211> 14333
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (4792)
<223> n equals a,t,g, or c
<400> 12836
```

						C 0
agcaggttca	caactacatg	atgccacccc	tcgaccgaag	ctggagggac	tacgtcccgg	60
atcagccaca	cccggaaatc	ccgtaccaat	gtcccatgac	gtttggaccc	cgcggccacc	120
actggcaagg	cccagcttgt	gaaaatggta	aggaggatac	cagtgcagga	aatagaagag	180
ctaactgcta	atgtggccat	gggccatggc	gaatcctggt	ctgtcctggg	cagcaccaaa	240
gctctttccc	cttcttagag	gctgcgtgtg	cagctcgggg	agagggggt	tttctcactc	300
ctgtgggatg	gtggcatccc	acagccaagt	ttactctcag	gatccatgct	aggcactgcc	360
cttcgtggga	tcctatttag	acaccacaga	gatcactcca	ggcagtggaa	aacagccccc	420
cactttttat	atagagagga	gattgtggaa	gctcataaat	aataagtagg	gatgctggga	480
gattattgag	ctggtatatt	tctctcgaat	agtggtgtgt	tcattgttgc	tattgttgga	540
attagaggtg	atactaaaaa	aggaacggaa	aaataccatg	gcaaacacat	aaaacgtctc	600
tacaggtgcc	tacctaccac	tgggtcccag	aaagacttgc	tgattgtgga	ttagatgtgg	660
tacataca	tcgggagttc	cccagacatc	aaaatgagct	ccctcagcag	aagctctcat	720
tagetageta	cagggagaat	ctaggaatgc	ggtaactcag	gccttcagga	cttttgagtt	780
acttacttaa	atggagggg	tgagacaggt	caacacacto	aaccctttgg	atgttttagg	840
agtedeteda	cctttqcaat	ttagcctttt	tttccccaqt	catgttcagg	ttatccttgg	900
ctacaaataa	taaaaaaata	taccactett	taatgtttgt	actgagtggc	atottcacaa	960
anaggtag	aattcacttc	cattaacttt	tcaagagga	tttgcagcaa	agactaattt	1020
adaayctcay	aattcagttg	ttaactaaca	taaaactacc	tcctgaaatt	cagacttgcg	1080
tttagtagta	taatatata	gasttagtaa	ccatagaaaa	gaggcaatgc	ttagaattgt	1140
tttactgctc	resettants	gaaccagcaa	ttgaaggatg	ggtaacagta	aatgaaggag	1200
gtaaagtgat	ggagtaggta	taccecatta	tttttccatt	catgtttcat	acaacattat	1260
cagcaagatc	aggregate	attatagaa	cccacaadad	acaagcaaaa	taaaaatgga	1320
etteagyaac	acggcccagc	taattaaaat	ctttaacaca	gactcaagta	gacctgaact	1380
ctaaataatt	tgctagtttt	ratter	gaaggagaaa	gactcaagta	tatatataaa	1440
ctcagctctg	ttgtgaaccc	gettegegaa	caayyacaaa	gcatgtcatc	ccasactat	1500
cctcagtctc	cetgttagte	agilacayay	agagegette	aagtttcctt	catctttacc	1560
gcactggctc	gttteteeat	cagetttggt	rategagetg	gtctccagct	tasttagaga	1620
tcacaagagc	gtgccctgct	agttgctggt	gergggagrg	ggtgggaagg	atacatagas	1680
ccagcccctt	ccttcccagg	etteacacac	acaccccayg	aagccccgca	gtgcgccgga	1740
ctctctgtct	agacatcatc	tgatttttat	tigeaaatge	aggttgccag	gtgataggaa	1800
ccttttatgc	ttgtgcccca	cctgagteec	aggeteeegg	agtccccaca	gayccaagca	1860
taaggtctgc	cgaagccttg	gcgttctcag	gtgagtgcag	ggtttgctcc	tggaggcacc	1920
gcaggaggcc	agcctctgct	gccagctctg	tcatctttgg	gcagattcga	tyggactta	1920
gacacttgct	ttgctccctc	tggggtctgg	agtagatgta	gacacatcct	graratata	2040
tgaccagggt	gatttaggag	caccattaga	aaacctgaca	tcactgcttg	tggttetget	2100
gaccgtttca	gccactggct	tgaatggagt	cattttggct	tcttcactgg	caecicicig	2160
aatttctagg	aatgtgcctt	tacctttacc	gagggcccct	cttcagccaa	tacted	2220
atgtggaata	attgcttgga	agtgtagaag	ggcttctcat	tttgagaagc	tgatcatcct	
tccaggttga	gccacaaata	agtcctcctc	ctctactccc	tggggacatt	agttetggte	2280 2340
cctcatctct	aaaacattga	tgtgcctaag	agtaatacac	attttggtct	teetetgaae	
tttaatatag	cttgcaaaca	aatatggatt	caatctgatt	tttaaagttt	tatttctaaa	2400
aaaaaaaaaa	aaaatccctg	caccatggag	atcttaccta	ctataaagaa	ggcacctcta	2460
ggcttggcaa	gcacacgtgc	tatatgtata	tttatttttc	agataatatt	ttggattgtt	2520
tttaaatggg	atttgttttt	atattaaaac	caaatagctt	aaggtttgga	atteteatet	2580
tgccctctgg	catctttaaa	aatcagtgat	gaaaaatact	aactaaattc	tgaaggtttc	2640
agggaggcga	gagttgtggc	acttttgctg	ctcagagggg	agctggagtt	tgacctacca	2700
gctctttcta	gttgtgaatg	aggettgeae	cttttttct	gaggtgctcg	tgagtaactg	2760
aggatgccct	ttgggaggag	gtgcttctga	gcaggaaggc	ttgtgtttgt	ttttagaaac	2820
tttcaaaccc	ttgtcttgaa	cacctaagac	ttgtgtgggt	gcctgaagag	taggaaataa	2880
acagctattt	atatctcggc	aacctcgtga	tttctgatga	cattaaatga	aatgaaacct	2940
gccccgagaa	tcacctcgaa	tggccaacac	ccactctctt	tggggcgcac	tgtctgactc	3000
gctttcagac	agtgtgttga	agcagagaat	tgagacagtg	atgtgggtta	agtctcaaaa	3060
cctgctgttg	aggaataaga	tagttttgtg	ggtttctttt	tttggtatgc	atgatacaga	3120
ttaattatca	gccatgagca	catttattag	ataactgtga	ttcccattga	ttttggggtt	3180
ccatacagtt	accagtggca	gctgcctcct	gtctgtgcca	ctcccctgcg	gtctggctga	3240
ggagettgtg	caaacccagc	ttggttcttt	caactcatgg	gcgatatttt	aaagaggctt	3300
ctgaaatcag	caaaacgttt	gtaaatggat	tcatcttgtt	taaagtttca	gagagcgcag	3360
ttttagagtt	cttttcaaac	ttaaacacaa	agcccagtgg	gaatttcagc	agactttaca	3420
tgaactttta	gagtatttt	ctcattaatt	tctttcttt	cacaagaatt	aattttgtga	3480
taaaaacacc	acatatccag	tgtggaaaac	taatttaaaa	atcagaaaaa	caaaaatgga	3540
aaataaaaac	atcacattct	accacccaga	aatcaccatt	aaggcctcag	tgcttaccct	3600
ttaatgtgtg	tatgtgagtg	tgtttatata	taaattatat	agacataaat	aattaagcac	3660

3720 ctaattctat atataattta tatatgtaca cacacacaca cacacacaca catttgcttt 3780 ttacctaaat gatgtcatgt tattattttg gggacgtttc aggtatgtgg accgacttgc ttctttctga aacaccgtta tattttttgc tagtataaat taaacttagg gttcatttcc 3840 tccaaagtaa aaattgattt gcttaaagat gaattttcat tcagtgacac atgacttaaa 3900 tgacatcacc actatcatca tcataattca caaataagac ttagcaagtt cttaatagtg 3960 atgctctata ataggaattc aacttacatt tccagaaaat taatgaaaga tacacttgtt 4020 4080 ccttaaaaaa agagtcggtg gccacatacg tttgtaatat gctggtttag acagattaaa tgggtttctt tccacgggac ttctccaagt gttgaccgag ctcatgctgt ctgtggatct 4140 ctgggggaga caagggcacg ctgtgtttcc caggcctcct tgacgcggga accttttgtt 4200 ccccacggg acatgtggga cactagagtt ccaccacagg tgcttggctc tgtggagtcg 4260 ttggcctcga ggtggtgtcc ttggccccca gcactgactc cggagctctg tgtttgcaga 4320 4380 ctgccggctg cacatctgcc tgtactaccg ggaaatcctc gtgaaggagc tgaccacgtc 4440 cagccccgag ggctgccgga tctcccatgg acatacgtat gacgccagca acctggacca 4500 ggtcctgttc ccctacccag aggacaatgg ccagaggaaa aacattgaga agctgctgag 4560 ccacctggag agggggtgg tcctctggat ggccccgacg ggctctatgc gaaaagactg 4620 tgccagagca ggatctactg ggacgggccc ctggcgctgt gcaacgaccg gcccaacaaa 4680 ctggagagag accagacctg caagctcttt gacacacagc agttcttgtc aggtaaggca 4740 cctcgttatc tgttagaatg gaggtggtga tggcctgcct gccacagggg tcagaaacca cagggtccct cccaccccag gctgaggtct tcctcctgtt gacttcggcg cncactgggc 4800 ttggggcttg actccagtag agatcttctg tctggctctg ttgtgggcag agagtccgga 4860 4920 tcagatggtc caggtggacc atggctcagg ctgttctctt gcaattctgg ttttcagcag 4980 tcgcctctta aaacagttcc atttcattgc actatgatct cgacaaatac gtctgctgat gtggcggctc ttttcaggtt cccagaaaaa tcataaaggt tggaagcata ttgttaacat 5040 tcttggttgt caggtgtgtc accctcatgc agatgctggc ccacgagtga gacggagggt 5100 ggagtggact gtactggttt tgcacaggag aagttatagg agagtgctat aagttggctc 5160 tgtgatatga acatttctaa gcatattttt cagaaccagt gagttttgtt tttctacctt 5220 ggatttcatg acaattcagc gaacctctgg ctggcttctg tgaagccctc gccctgtcat 5280 5340 gctgggcttc ctcactggct ttgtggggct gtccaggtgg agggagcctc ccgcgtggga gggagctgct ctacccgcca ctcgccaccc caccgccaac tcttcctctg ccttttccca 5400 gtcctgtccc ttcctgagcc ccttcagaaa ctcctgtgtc tttgatttct catgtgcctc 5460 cccttttctt gaatgtgctt cttcattcaa cttatttaaa ataaaaatat gacacgtctg 5520 tgtgctctgg cactgttgac atgtgctcgt acttctgggt gtaagtgacc caagtttttg 5580 taagctcatc cagattttct tttggtgccc aaagcaaata tgtccccaga taactaagct 5640 5700 tcaggccagg tgtggtggcc catgcctgta atcccagcac tttaggaggc tgaggtgggc agatcacttg aggccaggag ttcaagacca gcctggccaa catggcaaaa ccccgtctct 5760 actaaagata caaaaattag ctgggcgtga tggtgggcgc ctgtaatccc agctactcag 5820 gaggatgagg cacaagaatc gcttgaacct gtgggaggcg gaggttgcag tgagctgaga 5880 tcgcaccacg gtgctgcagt ttgcaggaca gagcgagact ccattgcccc ccgcaccaca 5940 aaaaaataac taagctcaca cagaggctga ccataggaag agggagaact gtgctggttc 6000 cccgaggcgg cggcaagtga ggaagtcacc tggggctgga cacctctcat tctaagggca 6060 gaaccatccc caagccctgg ccagggcggt cccatccttc ttggggttgg gcatggtgtt 6120 catgggggac caaggaaatt gaagggcaac tggggggacc cccctcccc tgtcagcatc 6180 6240 tcctgtgtct gccttgggat ctggaagagc tcacatgggc caggaaggct aaggccactg ggcctggatt tctgaagact ctggaccttg gtgccagtgg attcagaaga taccacaagg 6300 6360 tgagggcttt ctaatgaaag tgtcacaagg aactggcact ggcttttctg agtgcctctt 6420 gctgggcgtt tttagggagg tagagcccc gtggtgacta agctggaagg tgcacattga gtcacaggtg cactgcgtga gagacagcac aggcaggggg tggacgcctg tgagtgtcct 6480 6540 ggggctgtag acttgcgcga ctagaactta ctattaatct gtgagcaaga gctggtcttg gctttcattc cttcctctgt aaccaagggc tgtgctcttt gcccactgca gcctctcacc 6600 tcaaagtgtt cactgaggtt caaggaggat gctgtgaacg taaaaactgc agctgtgcca 6660 accagcttct gcataattaa ggattcccac caaacactct catgttatct agggttggag 6720 ccatgctttc tcagagaatt gtgccaactc gccattctga ttagcctgtg taggtgtagt 6780 6840 ctcagatcac ggcagtgtga atgtatttta cagattctga ctaagtcatt tgggtttgat 6900 ttgaattctg gaaaaaaaa aaagcaggaa gtcaaatagt cctgtaagtt agctagaaac 6960 ttctgttcag ttgaagagaa cagtggagat ctttgatatc ttcctattca ggtctgcaca 7020 gcactaggga cagcccccag ggccggccga gggtgtgtat ctgataagga cgcgtctgtt 7080 ctgcagaagc tgtagcggct cctgtgtcaa ctcgtttctt ttgcgggcgt gacattttat 7140 tgtagctaca ggcagaagat ttgtcttgtg tacaggggag ggagcatggg ctaaagtcag 7200 gggatgggca cttgtctttc caacaatgtt ccagtccgtt ttgtatcttt tgggtaggtg 7260 tggtggcttc aggatgtaca tgtgtatatc cacaagcggg aggccagggg ggctgcccca 7320 ctcctgttct caagtcaagt tactgttcca tccctggaga caggcaagaa gtctactcag

7380 agttacacag ttcaggcata gtgacagtgg gactcagctg ccgatggctg gtgctcagtc accacgttga cgttacatat tttctgtggt gcctgagtta cgtggatgtc cgcagtagca 7440 cagatactgg attatgtggg ctctgtagtg aggggatgag gttttaaaaat gatcctggga 7500 tgtcgaaaca ttctgatttt ttaaatgaaa acttgtccat ggcataaatt ggtcttttgc 7560 cattgcgtga ctacgtttct tgttctttat ctcccgactt cactgtggtc tactaccttt 7620 7680 tgaatcttcg tgggtccaat gctgcaaagc agtgttcttt agctgtcgac tagttcctct 7740 tgaagaatcg agggagaccg agggccctgg ggggaaagca cccaaaggaa tgcatacatg 7800 ctattttgta tctgagatgt tcacatcaag agccccactc agcggagtaa gagtgctcat tcctcttgca gtgttcagaa tcacagtaag ctcttgcttc ctgtttaacc tggtgtgttc 7860 ggtgatgagg gtttctgaac atggtctctt tcttgtgggc ttctacagag ctgcaagcgt 7920 ttgctcacca cggccgctcc ctgccaagat tccaggtgac tctatgcttt ggagaggagt 7980 8040 ttccagaccc tcagaggcaa agaaagctca tcacagctca cgtgagtcct cagttacact 8100 cctaccataq tqqcttcctg ttctttgtaa aggccagagt ttcatttaga aaagtcccaa 8160 atgaaaagta aatgtcaaat gacctggaaa aataagcgta acccttaaac tagtgaggga ggaagcatgg tccaacgagc agcacagtct gaggactcac gtgctcctcc cagacttgag 8220 8280 atctqctcat caaagaacca gggaggacag cctcaaagga gggtgcctct ttccccatct tttttatttt tcaggaaagt tgtcgtattt ccattttata gggattgaaa aagattgatg 8340 8400 gttaaagttg ccctttaaaa ttctccaggt taagattgct gtaagaatgc tatctagcta gtggatcttc attcaatgga aaagcttttc ccaaatgaga aactatccat tccctggagg 8460 cattttgtag gtctctgcag ctgtgtccta gcacctcttt tatttctgga attttagaaa 8520 ttatttaatt attgggcata tgatatttga aagaggctga atctttcaag gaattcaagc 8580 8640 aaatcagacc ctctcgtaat gttctctagc atagctcaag atgggttcaa ctgtggcaag taacactaaa agggtagggt taggattagg gttagagttt tcttttttat gagaaaaggt 8700 ttccatagat aacatgaagc attaatttgc catgggaaac agaatcttga acccttaaga 8760 cttttgaatt tgaaaacttc acattgctac atacttgcaa gcattattaa cgggcttgca 8820 tgctgagcaa taccaggtaa aagttacacc ccctaacatc aaagttctca tcatgttcta 8880 gctctgatgc tatttctcat tgagaactga aatgaaacat ggtttaatct tgaacataca 8940 acccccttc ttgattttaa aaacaaagac cagccaacca accagtatat aatcccatag 9000 actcaggagt tttctcatga gttctctcca gtgattgact taataattga tatgattgtt 9060 gaaataataa ctgatacatt gttaacaaca ggaattgcta aatgactaaa taaacttggc 9120 attgataagc agcatttaag aagttgatga tcggccgggc acagtggctc acgcctgtaa 9180 tcccggcact ttgggaggct gaggcgggca gatcatgtgg tcaggagttc gagaccagcc 9240 tgaccaacat ggtgaaaccc cctctctact aaaaatacaa aaattagccg ggcgtggtgg 9300 tgcgcacctg taatcccagc tactcgggag gctgaagcaa gggagtcact tgaacccagg 9360 agtcagagct tgcagtgagc cgagattgca ccactgcact ccagcctggg tgacagagtg 9420 agactctgtc tcaaaaaaaa aacaaaaaaa gaagttgatg atcagctcag ctatcacatc 9480 aatccagttt taaagttgac atggatgcaa gtcactgtcc tctaagtcag ggaaagatgg 9540 atccccagat gaccccctca tgctgaagac gaggctgcgt ggtccataaa atgaataaac 9600 acacgtgtac acctatgagt tccactttta aaaattatta atttaattca tttcaggtac 9660 ttaggagttt agcttaagtc gtcatatata aaatacagtc tctaatatca tgattgatgg 9720 agagcattca gcttgcctta gatgctgtaa attcaggaaa agctgaacat taaggcgttt 9780 ttgttttttg gtgagtgtga tccacgctaa taaccagaca gtataaattt gaggccagtt 9840 9900 tacctctggt tgagaactat acagattacc tagaaatcaa atcattcagg atgagctcct 9960 tgtttctttc aaactgcagt tgtggaaaaa caaaatcatt ggcctaaatt accctgcaga 10020 ttccctcaga cttcctttta atttgatcac tttacttgat ttgatgcagt tttagttaaa 10080 tgtacatttt aagtggcagt cgatttgaaa gtaacatctt taacccagaa ttaagtcact 10140 ttggctgttt ttttacatgt tgatctatgg aaggactaac caaaaaattg cttctttaga 10200 tggctccaaa tatgaaatgt tttgatgtgt tctaggatgt aactttgggc tttacgttac 10260 tgtctcctta gaatctgagt gctgtttaat agtgagccag ttgcaggata tctcagtaat 10320 gtctttttaa aatctcttat taaaggtaga acctctgcta gccagacaac tatattattt 10380 tgctcaacaa aacagtggac atttcctgag gggctacgat ttaccagaac acatcagcaa 10440 tccagaagat taccacagat ctatccgcca ttcctctatt caagaatgaa aaatgtcaag 10500 atgagtggtt ttctttttcc ttttttttt ttttttttg atacggggat acggggtctt 10560 10620 gctctgtctc ccaggctgga gtgcagtgac acaatctcag ctcactgtga cctccgcctc 10680 ctgggttcaa gagactctcc tgcctcagcc tccctggtag ctgggattac aggtgtgagc cactgcaccc acccaagaca agtgattttc attgtaaata tttgacttta gtgaaagcgt 10740 10800 ccaattgact gccctcttac tgttttgagg aattcagaag tggagatttc agttcagcgg ttgaggagaa ttgcggcgag acaagcatgg aaaatcagtg acatctgatt ggcagatgag 10860 cttatttcaa aaggaagggt ggctttgcat ttcttgtgtt ctgtagactg ccatcattga 10920 tgatcactgt gaaaattgac caagtgatgt gtttacattt actgaaatgc gctctttaat 10980

ttgttgtaga	ttaggtcttg	ctggaagaca	gagaaaactt	gcctttcagt	attgacactg	11040
	tgactgcttg					11100
	cctcacacgt					11160
	ttgctgagtg					11220
ggggaggccc	atcccccacc	tgccagcggt	ttcctggtgt	gggtccctct	gccccgccct	11280
ccttcccatt	ggctttctct	ccttggcctt	tcctggaagc	cagttagtaa	acttcctatt	11340
	aaaaaacatg					11400
tctagtaatg	tctaagtaat	ggttaagttt	tcttgtttct	gcatctttt	gaccctcatt	11460
ctttagagat	gctaaaattc	ttcgcataaa	gaagaagaaa	ttaaggaaca	taaatcttaa	11520
tacttgaact	gttgcccttc	tgtccaagta	cttaactatc	tgttcccttc	ctctgtgcca	11580
cgctcctctg	tttgtttggc	tgtccagcga	tcagccatgg	cgacactaaa	ggaggaggag	11640
	ccaggctgga					11700
gactacggaa	ctgcacactc	agtgggctgt	ttctgcttat	ttcatctgtt	ctatgcttcc	11760
tcgtgccaat	tatagtttga	cagggcctta	aaattacttg	gctttttcca	aatgcttcta	11820
tttatagaat	cccaaagacc	tccacttgct	taagtatacc	tatcacttac	atttttgtgg	11880
ttttgagaaa	gtacagcagt	agactggggc	gtcacctcca	ggccgtttct	catactacag	11940
gatatttact	attactccca	ggatcagcag	aagattgcgt	agctctcaaa	tgtgtgttcc	12000
tgcttttcta	atggatattt	taaattcatt	caacaagcac	ctagtaagtg	cctgctgtat	12060
	cacagttcag					12120
	tttaaaaagt					12180
	cagaaaagac					12240
	ccaaattctc					12300
	acttttctgt					12360
cttgcacaca	ctttcatgca	gtgctctttg	tagctaacag	tgaagattta	cctcgttctg	12420
ctcagaggcc	ttgctgtgga	gctccactgc	catgtaccca	gtagggtttg	acatttcatt	12480
agccatgcaa	catggatatg	tattgggcag	cagactgtgt	ttcgtgaact	gcagtgatgt	12540
atacatctta	tagatgcaaa	gtattttggg	gtatattatc	ctaagggaag	ataaagatga	12600
	tgctgtttca					12660
aaccccacac	agcacttcaa	agaagctgtc	ttggaagtct	gtctcaggag	caccctgtct	12720
tcttaattct	ccaagcggat	gctccatttc	aattgctttg	tgacttcttc	ttctttgttt	12780
ttttaaatat	tatgctgctt	taacagtgga	gctgaatttt	ctggaaaatg	cttcttggct	12840
ggggccacta	cctcctttcc	tatctttaca	tctatgtgta	tgttgacttt	ttaaaattct	12900
gagtgatcca	gggtatgacc	tagggaatga	actagctatg	aaatactcag	ggttaggaat	12960
cctagcactt	gtctcaggac	tctgaaaagg	aacggcttcc	tcattccttg	tcttgataaa	13020
	caaactagaa					13080
ggacttgtta	aagagcactg	ggtcatatgg	aaaaaatgta	tgtgtctccc	aggtgcattt	13140
cttggtttat	gtcttgttct	tgagattttg	tatatttagg	aaaacctcaa	gcagtaatta	13200
	gaacactata					13260
aagcccctga	gtcctgagcg	aaaacaggag	agttagtcgc	cctacagaaa	acccagctag	13320
actattgggt	atgaactaaa	aagagactgt	gccatggtga	gaaaaatgta	aaatcctaca	13380
gtgaaatgag	cagcccttac	agtattgtta	ccaccaaggg	caggtaggta	ttagtgtttg	13440
aaaaagctgg	tctttgagcg	agggcataaa	tacagctagc	cccaggggtg	gaacaactct	13500
gggagtcttg	ggtactcgca	cctcttggct	ttgttgactg	ccgccaggaa	ggccacttgt	13560
gtgtgcgtgt	cagttacttt	tttagtaaca	attcagatcc	agtgtaaact	tccgttcatt	13620
gctctccagt	cacatgcccc	cacttcccca	caggtgaaag	tttttctgaa	agtgttggga	13680
	tctttatttg					13740
tgtctgaatg	gtgcgtgaag	gctctcagac	cttacacacc	attttgtaag	ttatgtttta	13800
catgccccgt	ttttgagact	gatctcgatg	caggtggatc	tccttgagat	cctgatagcc	13860
tgttacagga	atgaagtaaa	ggtcagtttt	tttttgtatt	gattttcaca	gctttgagga	13920
acatgcataa	gaaatgtagc	tgaagtagag	gggacgtgag	agaagggcca	ggccggcagg	13980
ccaaccctcc	tccaatggaa	attcccgtgt	tgcttcaaac	tgagacagat	gggacttaac	14040
aggcaatggg	gtccacttcc	ccctcttcag	catcccccgt	accccacttt	ctgctgaaag	14100
aactgccagc	aggtaggacc	ccagaggccc	ccaaatgaaa	gcttgaattt	cccctactgg	14160
ctctgcgttt	tgctgagatc	tgtaggaaag	gatgcttcac	aaactgaggt	agataatgct	14220
atgctgtcgt	tggtatacat	catgaatttt	tatgtaaatt	gctctgcaaa	gcaaattgat	14280
atgtttgata	aatttatgtt	tttaggtaaa	taaaaacttt	taaaaatttg	tta	14333

<210> 12837

<211> 10835

<212> DNA

<400> 12837 60 aggttcacaa ctacatgatg ccaccctcg accgaagctg gagggactac gtcccggatc 120 agccacacc ggaaatcccg taccaatgtc ccatgacgtt tggaccccgc ggccaccact ggcaaggccc agcttgtgaa aatggtaagg aggataccag tgcaggaaat agaagagcta 180 240 actgctaatg tggccatggg ccatggcgaa tcctggtctg tcctgggcag caccaaagct 300 ctttcccctt cttagaggct gcgtgtgcag ctcggggaga ggggggtttt ctcactcctg tgggatggtg gcatcccaca gccaagttta ctctcaggat ccatgctagg cactgccctt 360 cgtgggatcc tatttagaca ccacagagat cactccaggc agtggaaaac agccccccac 420 tttttatata gagaggagat tgtggaagct cataaataat aagtagggat gctgggagat 480 540 tattgagctg gtatatttct ctcgaatagt ggtgtgttca ttgttgctat tgttggaatt 600 agaggtgata ctaaaaaagg aacggaaaaa taccatggca aacacataaa acgtctctac 660 aggtgcctac ctaccactgg gtcccagaaa gacttgctga ttgtggatta gatgtggtcc cctgccctcg ggagttcccc agacatcaaa atgagctccc tcagcagaag ctctcattag 720 ctgggtgcag ggagaatcta gcaatgcggt aactcaggcc ttcaggactt ttgagttagt 780 tacttaaatg gaagtcctga gacaggtcaa cacactgaac cctttggatg ttttaggaat 840 900 atttgttcct ttgcaatttg gccttttttt ccccagtcat gttcaggtta tccttggctg 960 caggtagtga agaggtgtac cactctttaa tgtttgtact gagtggcatg ttcacaaaaa 1020 agctcagaat tcagttgcat tggcttttca agagggattt gcagcaaggg ctggtttcca 1080 atatggtagt ggaggaattg gctaacataa aactagctcc tgaaattcag acttgcgttt 1140 actgctctgg ctctatggaa ttagtaacca tgggaaagag gcaatgctta gaattgtgta 1200 aagtgatgga gtaggtagag acctgtcttg aagcatcggt aacagtaaat gaagcagcag 1260 caagatcagg tgttctgtgc cacattcttt ttccattcat gtttcataca acattgtctt 1320 caggaacatg gttcagtgtt ctcccaaccc acaagagaca agcaaaataa aaatggacta 1380 aataatttgc tagtttttaa ttgggctctt tggcacagac tcaagtagac ctgaactctc 1440 agetetgttg tgaacccget ttgtgaacaa ggacaaagca tgtcatctgt etctgagcet cagtctccct gttagtcagt tacagagaga gcgctccaag tttccttcca aagctgtgca 1500 1560 ctggctcgtt tctccatcag ctttggtttt ccagttggtc tccagctcat ctttgcctca 1620 caagagcgtg ccctgctagt tgctggtgct gggaagtgggt gggaaggtga ttgggcgcca 1680 gccccttcct tcccaggctt cacacacaca ccccaggaag ccccgcagtg cgtcggactc tctgtctaga catcatctga tttttatttg caaatgcagg ttgccaggtg acaggaacct 1740 tttatgcttg tgccccacct gagtcccagg ctcccggagt ccccacagag ccaagcataa 1800 1860 ggtctgccga agccttggcg ttctcaggtg agtgcagggt ttgctcctgg aggcaccgca ggaggccagc ctctgctgcc agctctgtca tctttgggca gattcgatgg gactttagac 1920 acttgctttg ctccctctgg ggtctggagt agatgtagac acatcctgtg tgtgaggtga 1980 ccagggtgat ttaggagcac cattagaaaa cctgacatca ctgcttgtgg ttctgctgac 2040 2100 cgtttcagcc actggcttga atggagtcat tttggcttct tcactggcac ctctctgaat 2160 ttctaggaat gtgcctttac ctttaccgag ggcccctctt cagccaacat tctcacgatg 2220 tggaataatt gcttggaagt gtagaagggc ttctcatttt gagaagctga tcatccttcc 2280 aggttgagcc acaaataagt cctcctcctc tactccctgg ggacattagt tctggtccct 2340 catctctaaa acattgatgt gcctaagagt aatacacatt ttggtcttcc tctgaacttt aatatagctt gcaaacaaat atggattcaa tctgattttt aaagttttat ttctaaaaaa 2400 2460 aaaaaaaaaa atccctgcac catggagatc ttacctacta taaagaaggc acctctaggc ttggcaagca cacgtgctat atgtatattt atttttcaga taatattttg gattgttttt 2520 aaatgggatt tgtttttata ttaaaaccaa atagcttaag gtttggaatt ctcatcttgc 2580 2640 cctctggcat ctttaaaaat cagtgatgaa aaatactaac taaattctga aggtttcagg gaggcgagag ttgtggcact tttgctgctc agaggggagc tggagtttga cctaccagct 2700 ctttctagtt gtgaatgagg cttgcacctt tttttctgag gtgctcgtga gtaactgagg 2760 atgccctttg ggaggaggtg cttctgagca ggaaggcttg tgtttgtttt tagaaacttt 2820 caaacccttg tcttgaacac ctaagacttg tgtgggtgcc tgaagagtag gaaataaaca 2880 gctatttata tctcggcaac ctcgtgattt ctgatgacat taaatgaaat gaaacctgcc 2940 3000 ccgagaatca cctcgaatgg ccaacaccca ctctctttgg ggcgcactgt ctgactcgct ttcagacagt gtgttgaagc agagaattga gacagtgatg tgggttaagt ctcaaaacct 3060 gctgttgagg aataagatag ttttgtgggt ttcttttttt ggtatgcatg atacagatta 3120 attatcagcc atgagcacat ttattagata actgtgattc ccattgattt tggggttcca 3180 tacagttacc agtggcagct gcctcctgtc tgtgccactc ccctgcggtc tggctgagga 3240 gcttgtgcaa acccagcttg gttctttcaa ctcatgggcg atattttaaa gaggcttctg 3300 aaatcagcaa aacgtttgta aatggattca tcttgtttaa agtttcagag agcgcagttt 3360 3420 tagagttctt ttcaaactta aacacaaagc ccagtgggaa tttcagcaga ctttacatga acttttagag tatttttctc attaatttct ttcttttcac aagaattaat tttgtgataa 3480

3540 aaacaccaca tatccagtgt ggaaaactaa tttaaaaaatc agaaaaacaa aaatggaaaa 3600 taaaaacatc acattctacc acccagaaat caccattaag gcctcagtgc ttacccttta 3660 atgtgtgtat gtgagtgtgt ttatatataa attatataga cataaataat taagcaccta 3720 attctatata taatttatat atgtacacac acacacaca acacacacat ttgcttttta 3780 cctaaatgat gtcatgttat tattttgggg acgtttcagg tatgtggacc gacttgcttc 3840 tttctqaaac accgttatat tttttgctag tataaattaa acttagggtt catttcctcc 3900 aaaqtaaaaa ttqatttqct taaaqatgaa ttttcattca gtgacacatg acttaaatga 3960 catcaccact atcatcatca taattcacaa ataagactta gcaagttctt aatagtgatg 4020 ctctataata qqaattcaac ttacatttcc agaaaattaa tgaaagatac acttgttcct taaaaaaaga gtcggtggcc acatacgttt gtaatatgct ggtttagaca gattaaatgg 4080 gtttctttcc acgggacttc tccaagtgtt gaccgagctc atgctgtctg tggatctctg 4140 4200 ggggagacaa gggcacgctg tgtttcccag gcctccttga cgcgggaacc ttttgttccc 4260 cccacqqqac atgtgggaca ctagagttcc accacaggtg cttggctctg tggagtcgtt 4320 ggcctcgagg tggtgtcctt ggcccccagc actgactccg gagctctgtg tttgcagact gccggctgca catctgcctg tactaccggg aaatcctcgt gaaggagctg accacgtcca 4380 4440 gccccgaggg ctgccggatc tcccatggac atacgtatga cgccagcaac ctggaccagg 4500 tcctgttccc ctacccagag gacaatggcc agaggaaaaa cattgagaag ctgctgagcc 4560 acctggagag gggcgtggtc ctctggatgg cccccgacgg gctctatgcg aaaagactgt 4620 gccagagcag gatctactgg gacgggcccc tggcgctgtg caacgaccgg cccaacaaac 4680 tggagagaga ccagacctgc aagctctttg acacacagca gttcttgtca ggtaaggcac 4740 ctcgttatct gttagaatgg aggtggtgat ggcctgcctg ccacaggggt cagaaaccac 4800 agggtccctc ccaccccagg ctgaggtctt cctcctgttg acttcggcgc ccactgggct tggggcttga ctccagtaga gatcttctgt ctggctctgt tgtgggcaga gagtccggat 4860 4920 cagatggtcc aggtggacca tggctcaggc tgttctcttg caattctggt tttcagcagt 4980 cgcctcttaa aacagttcca tttcattgca ctatgatctc gacaaatacg tctgctgatg 5040 tggcggctct tttcaggttc ccagaaaaat cataaaggtt ggaagcatat tgttaacatt cttggttgtc aggtgtgtca ccctcatgca gatgctggcc cacgagtgag acggagggtg 5100 5160 gagtggactg tactggtttt gcacaggaga agttatagga gagtgctata agttggctct gtgatatgaa catttctaag catattttc agaaccagtg agttttgttt ttctaccttg 5220 5280 gatttcatga caattcagcg aacctctggc tggcttctgt gaagcccctc gccctgtcat 5340 gctgggcttc ctcactggct ttgtggggct gtccaggtgg agggagcctc ccgcgtggga gggagctgct ctacccgcca ctcgccaccc caccgccaac tcttcctctg ccttttccca 5400 5460 gtcctgtccc ttcctgagcc ccttcagaaa ctcctgtgtc tttgatttct catgtgcctc 5520 cccttttctt gaatgtgctt cttcattcaa cttatttaaa ataaaaatat gacacgtctg tgtgctctgg cactgttgac atgtgctcgt acttctgggt gtaagtgacc caagtttttg 5580 5640 taageteate cagattttet tttggtgeee aaageaaata tgteeecaga taaetaaget tcaggccagg tgtggtggcc catgcctgta atcccagcac tttaggaggc tgaggtgggc 5700 5760 agatcacttg aggccaggag ttcaagacca gcctggccaa catggcaaaa ccccgtctct 5820 actaaagata caaaaattag ctgggcgtga tggtgggcgc ctgtaatccc agctactcag 5880 gaggatgagg cacaagaatc gcttgaacct gtgggaggcg gaggttgcag tgagctgaga tcgcaccacg gtgctgcagt ttgcaggaca gagcgagact ccattgcccc ccgcaccaca 5940 aaaaaataac taagctcaca cagaggctga ccataggaag agggagaact gtgctggttc 6000 6060 cccgaggcgg cggcaagtga ggaagtcacc tggggctgga cacctctcat tctaagggca 6120 gaaccatccc caagccctgg ccagggcggt cccatccttc ttggggttgg gcatggtgtt 6180 catgggggac caaggaaatt gaagggcaac tggggggacc cccctcccc tgtcagcatc tcctgtgtct gccttgggat ctggaagagc tcacatgggc caggaaggct aaggcccact 6240 gggcctggat ttctgaagac tctggacctt ggtgccagtg gattcagaag ataccacaag 6300 gtgagggctt tctaatgaaa gtgtcacaag gaactggcac tggcttttct gagtgcctct 6360 tgctgggcgt ttttagggag gtagagcccc cgtggtgact aagctggaag gtgcacattg 6420 6480 agtcacaggt gcactgcgtg agagacagca caggcagggg gtggacgcct gtgagtgtcc tggggctgta gacttgcgcg actagaactt actattaatc tgtgagcaag agctggtctt 6540 ggctttcatt ccttcctctg taaccaaggg ctgtgctctt tgcccactgc agcctctcac 6600 6660 ctcaaagtgt tcactgaggt tcaaggagga tgctgtgaac gtaaaaactg cagctgtgcc aaccagcttc tgcataatta aggattccca ccaaacactc tcatgttatc tagggttgga 6720 gccatgcttt ctcagagaat tgtgccaact cgccattctg attagcctgt gtaggtgtag 6780 6840 tctcagatca cggcagtgtg aatgtatttt acagattctg actaagtcat ttgggtttga 6900 tttgaattct ggaaaaaaaa aaaagcagga agtcaaatag tcctgtaagt tagctagaaa 6960 cttctgttca gttgaagaga acagtggaga tctttgatat cttcctattc aggtctgcac 7020 agcactaggg acagccccca gggcccggcc cgagggtgtg tatctgataa ggacgcgtct gttctgcaga agctgtagcg gctcctgtgt caactcgttt cttttgcggg cgtgacattt 7080 7140 tattgtagct acaggcagaa gatttgtctt gtgtacaggg gagggagcat gggctaaagt

```
7200
caggggatgg gcacttgtct ttccaacaat gttccagtcc gttttgtatc ttttgggtag
gtgtggtggc ttcaggatgt acatgtgtat atccacaagc gggaggccag gggggctgcc
                                                                 7260
                                                                 7320
ccactcctgt tctcaagtca agttactgtt ccatccctgg agacaggcaa gaagtctact
                                                                 7380
cagagttaca cagttcaggc atagtgacag tgggactcag ctgccgatgg ctggtgctca
                                                                  7440
gtcaccacgt tgacgttaca tattttctgt ggtgcctgag ttacgtggat gtccgcagta
                                                                  7500
gcacagatac tggattatgt gggctctgta gtgagggggg gagggtttaa aataatcctg
ggatgtcgaa acattctgat tttttaaatg aaaacttgtc catggcataa attggtcttt
                                                                  7560
tgccattgcg tgactacgtt tcttgttctt tatctcccga cttcactgtg gtctactacc
                                                                  7620
ttttgaatct tcgtgggtcc aatgctgcaa agcagtgttc tttagctgtc gactagttcc
                                                                  7680
tcttgaagaa tcgagggaga ccgagggccc tggggggaaa gcacccaaag gaatgcatac
                                                                  7740
                                                                  7800
atgctatttt gtatctgaga tgttcacatc aagagcccca ctcagcggag taagagtgct
                                                                  7860
cattcctctt gcagtgttca gaatcacagt aagctcttgc ttcctgttta acctggtgtg
                                                                  7920
ttcggtgatg agggtttctg aacatggtct ctttcttgtg ggcttctaca gagctgcaag
                                                                  7980
cgtttgctca ccacggccgc tccctgccaa gattccaggt gactctatgc tttggagagg
                                                                  8040
agtttccaga ccctcagagg caaagaaagc tcatcacagc tcacgtgagt cctcagttac
                                                                  8100
actcctacca tagtggcttc ctgttctttg taaaggccag agtttcattt agaaaagtcc
                                                                  8160
caaatgaaaa gtaaatgtca aatgacctgg aaaaataagc gtaaccctta aactagtgag
                                                                  8220
ggaggaagca tggtccaacg agcagcacag tctgaggact cacgtgctcc tcccagactt
                                                                  8280
gagatctgct catcaaagaa ccagggagga cagcctcaaa ggagggtgcc tctttcccca
tcttttttat ttttcaggaa agttgtcgta tttccatttt atagggattg aaaaagattg
                                                                  8340
                                                                  8400
atggttaaag ttgcccttta aaattctcca ggttaagatt gctgtaagaa tgctatctag
ctagtggatc ttcattcaat ggaaaagctt ttcccaaatg agaaactatc cattccctgg
                                                                  8460
aggcattttg taggtctctg cagctgtgtc ctagcacctc ttttatttct ggaattttag
                                                                  8520
                                                                  8580
aaattattta attattgggc atatgatatt tgaaagaggc tgaatctttc aaggaattca
                                                                  8640
agcaaatcag accetetegt aatgttetet agcatagete aagatgggtt caactgtgge
                                                                  8700
aagtaacact aaaagggtag ggttaggatt agggttagag ttttctttt tatgagaaaa
                                                                  8760
ggtttccata gataacatga agcattaatt tgccatggga aacagaatct tgaaccctta
agacttttga atttgaaaac ttcacattgc tacatacttg caagcattat taacgggctt
                                                                  8820
gcatgctgag caataccagg taaaagttac accccctaac atcaaagttc tcatcatgtt
                                                                  8880
8940
                                                                  9000
acaaccccc ttcttgattt taaaaacaaa gaccagccaa ccaaccagta tataatccca
tagactcagg agttttctca tgagttctct ccagtgattg acttaataat tgatatgatt
                                                                  9060
gttgaaataa taactgatac attgttaaca acaggaattg ctaaatgact aaataaactt
                                                                  9120
ggcattgata agcagcattt aagaagttga tgatcggccg ggcacagtgg ctcacgcctg
                                                                  9180
taatcccggc actttgggag gctgaggcgg gcagatcatg tggtcaggag ttcgagacca
                                                                  9240
gcctgaccaa catggtgaaa cccctctct actaaaaata caaaaattag ccgggcgtgg
                                                                  9300
tggtgcgcac ctgtaatccc agctactcgg gaggctgaag caagggagtc acttgaaccc
                                                                  9360
aggagtcaga gcttgcagtg agccgagatt gcaccactgc actccagcct gggtgacaga
                                                                  9420
gtgagactct gtctcaaaaa aaaaacaaaa aaagaagttg atgatcagct cagctatcac
                                                                  9480
atcaatccag ttttaaagtt gacatggatg caagtcactg tcctctaagt cagggaaaga
                                                                  9540
tggatcccca gatgaccccc tcatgctgaa gacgaggctg cgtggtccat aaaatgaata
                                                                  9600
9660
tacttaggag tttagcttaa gtcgtcatat ataaaataca gtctctaata tcatgattga
                                                                  9720
tggagagcat tcagcttgcc ttagatgctg taaattcagg aaaagctgaa cattaaggcg
                                                                  9780
                                                                  9840
tttttgtttt ttggtgagtg tgatccacgc taataaccag acagtataaa tttgaggcca
gttagcttct ctttttccac aatagtagtt ttgttgttgt ttaactttac tttttatttc
                                                                  9900
ttttacctct ggttgagaac tatacagatt acctagaaat caaatcattc aggatgagct
                                                                  9960
ccttgtttct ttcaaactgc agttgtggaa aaacaaaatc attggcctaa attaccctgc
                                                                 10020
agattccctc agacttcctt ttaatttgat cactttactt gatttgatgc agttttagtt
                                                                 10080
aaatgtacat tttaagtggc agtcgatttg aaagtaacat ctttaaccca gaattaagtc
                                                                 10140
actttggctg tttttttaca tgttgatcta tggaaggact aaccaaaaaa ttgcttcttt
                                                                 10200
agatggctcc aaatatgaaa tgttttgatg tgttctagga tgtaactttg ggctttacgt
                                                                 10260
                                                                 10320
tactgtctcc ttagaatctg agtgctgttt aatagtgagc cagttgcagg atatctcagt
                                                                 10380
aatgtctttt taaaatctct tattaaaggt agaacctctg ctagccagac aactatatta
ttttgctcaa caaaacagtg gacatttcct gaggggctac gatttaccag aacacatcag
                                                                 10440
caatccagaa gattaccaca gatctatccg ccattcctct attcaagaat gaaaaatgtc
                                                                 10500
aagatgagtg gttttctttt tccttttttt ttttttttt ttgatacggg gatacggggt
                                                                 10560
                                                                 10620
cttgctctgt ctcccaggct ggagtgcagt gacacaatct cagctcactg tgacctccgc
                                                                 10680
ctcctgggtt caagagactc tcctgcctca gcctccctgg tagctgggat tacaggtgtg
agccactgca cccacccaag acaagtgatt ttcattgtaa atatttgact ttagtgaaag
                                                                 10740
```

```
<210> 12838
<211> 2489
<212> DNA
<213> Homo sapiens
<400> 12838
ttaaatccgg gcccttggtc ccccgcgcgg gcgcgggtgg atctctcggg ctctgacttg
                                                                       60
ttttcgggtc accttcaggc ttcagccagg cacctgacgc ctctttcccc tcacggtgcc
                                                                      120
agggccgggc cgaactacat ttcccaggag gctccgcggc caggtgcaaa cagcgccgtg
                                                                      180
ctgactacat ttcccagaca gccttgcggc ggcccgggcc ttaaagcgtc catttcccag
                                                                      240
cggccctccg ctgcgagacc gcagcccttc tctggagtct cagagccgca agacaccacg
                                                                      300
actcccagag gaccttgcgt cgggcaagaa agactacacc ttccagaggc ctctgcggcg
                                                                      360
ccgcgacagg aagcggggg cgagccgagt gtccttgcgc gtggatccga gcgaccatgg
                                                                      420
                                                                      480
tggcccgggt gtggtcgctg atgaggtgcg tggggggcgcc ggaggggacc cgagtccccg
                                                                      540
aaaaagtcca tttttgtggg catccctgtc tccagtctgg tcccgatctg ctcttcgctt
                                                                      600
cccttagagt cacttcccct tcgttccccg cctatgggcc agatagggaa actgaggctt
                                                                      660
cagaggggcg gggcttcccg aggtcgccaa tcccctccct cctgcttccc agcgagccct
                                                                      720
tggcgttcag ttcgcggtgt cagcctccgc ctccgagcct cagttgtctt ctctgtgagg
tgggaatgcc ggtgaatcct gccgctggcg tggatgagaa gtgaatgcgt gctcggagct
                                                                      780
                                                                      840
gcgagtgaca gcgggcagga ggcgcccagg gacacttggt ttctccaggg ctggaaggct
                                                                      900
tctagaaggt caagatctta cgtcttcact gcccctgctc actgtgggac tttgagtgac
                                                                      960
ccactctccc cctctgggtt tcagttcatc agttcaagtg gcgtccagcc gccctgcctt
gcacgttgta aaacgagtgc tgtatataat aggggtctgg gtcgacggtg ctgcactaca
                                                                     1020
                                                                     1080
gagtgtcacc ctgtggacgg tgagccctca ggagggtctc actctccccg tgggccttgg
cccctgaggg tggctgtcag tgtccgctga gcttctgctc ctcccgtccc tgcccgcagg
                                                                     1140
ttcctcatca agggaagtgt ggctgggggc gccgtctacc tggtgtacga ccaggagctg
                                                                     1200
                                                                     1260
ctggggccca gcgacaagag ccaggcagcc ctacagaagg ctggggaggt ggtccccccc
                                                                     1320
gccatgtacc agttcagcca gtacgtgtgt cagcagacag gcctgcagat accccaggta
ctacgggccg ggaacgaggc cagggtttgg cgggtggtca gctctgggag gtccctccag
                                                                     1380
ccctgcacga tgttgtcctc catattgatg ctgacctgat tctccggcct gtcctcctcc
                                                                     1440
ctccgcctct ggggatgggc tgctgagcct tttcaccagt tctttctgcc catctctttt
                                                                     1500
teccagetee cageceetee aaagatttae ttteecatee gtgacteetg gaatgeaggt
                                                                     1560
aaggcaccca gtttctttgc ttggagggag acaccccagt ctagcccctc tccccacttc
                                                                     1620
                                                                     1680
ctggccattc ctttctgtcc atcctccttc ctgcccgaca cgtgtctctt agggatctaa
aagggaaagg aggccgagca cagtggctca cgcctgtaat cccagcactt tgggaggctg
                                                                     1740
aggtgggcgg atcatctgaa gtcaggagtt cgagaccagc ctgggcaaca tggtgaaacc
                                                                     1800
ccatctctac taaaaataca aaaattaacc gtgcgtggtg gtgcacacct gtaatcccag
                                                                     1860
ctgctgcttg agaggctgaa gcaggagaat tgcttgaacc caggaggcag aggttgcagt
                                                                     1920
                                                                     1980
gagccgaggt tgcaccactg cactccagcc tgggcgacag ggcgagactc catctcaaaa
                                                                     2040
aaataaaata caaaaattag cctggtatgg tggcgcactt gtagtcccag ctacttggga
                                                                     2100
ggctgaggca agagaatcgc ttgaacccag gaggcgaagg ttgcagtgag ccgagattgc
actactgcac tecageetgg gagacagagt gagaetecat eccegeece cacecaceee
                                                                     2160
ccaccgcca aaacaaactc tagagtttcc caggggttgg aggctgggtg aggctgggag
                                                                     2220
gggagtatca ccagtggccg tccctttccc acaggcatca tgacggtgat gtcagctctg
                                                                     2280
                                                                     2340
teggtggeec cetecaagge eegegagtae tecaaggagg getgggagta tgtgaaggeg
cgcaccaagt agcgagtcag caggggccgc ctgccccggc cagaacgggc agggctgcca
                                                                     2400
ctgacctgaa gactccggac tgggacccca ctccgagggc agctcccggc cttgccggcc
                                                                     2460
                                                                     2489
caataaagga cttcagaagt gttccctga
<210> 12839
<211> 12835
<212> DNA
<213> Homo sapiens
<400> 12839
cgaatgaggt taacaccaga ttgttccaaa atgttgattt caacgtcctc tggatatctc
                                                                       60
                                                                      120
ttaattttgc atgaccttga cttaactaag tctttagaag taggcagcta tcccatttta
```

```
180
agagcaagaa gaactacttc aagttcaggt aagcttttct tttttggtca aaaagatttt
tctcgagaat ctcaaacata gagatggtat aggtttcttt tctgaaaatg atagcaggaa
                                                                      240
aagggaagac agttttttaa aaggcattct ttagaaagct cattgatggg tttttatcta
                                                                      300
agcaagtata atgatttgta tgtatctctg acatatcatt catatgtacc tctgaatcac
                                                                      360
aaatggacta ggaggaataa ctgctgaccc taaagtattt tcttttagct ttatgctagc
                                                                      420
cacaggatct tttcatcagt aattttgaat catcactatc tcaaaaatta gtgatggcac
                                                                      480
aaggtcttaa gtccttctgg aatcaagcag agcttttatt aaattatggt caatatagag
                                                                      540
                                                                      600
ttttagtttt atctgtatcc tagacttaca gatgtccaga cacaggtagc tggtgccatc
                                                                      660
ttatctcatt actctctaaa cgctcttttg ctaaaactct gtctcttctc ccattgctga
ttttgttaga cttaagagaa tttagggttc agaaaaatgt acgtattgta ttttatcaac
                                                                      720
                                                                      780
attatgtgat ttaaaaaaaga ctatatttca tctacctttg ggaaagaggg gactggtgtg
                                                                      840
gggacatacc catcatttac attataaaca aaaatccagg ggaaaaaaaga cttaagcatt
                                                                      900
tggaacatag aatgctaata aattgctatt aaaaggcagc tttgaatggt tggggccagg
                                                                      960
tgcqqqqqct cacacctgta atcccatcac tttgggaggc caaggtggga ggatcgcttg
                                                                     1020
agcccaggag ttgaactcaa gggtagcctg ggcaacatag gaagacctca tctctacaaa
                                                                     1080
taacttaaaa atttagccag gtgcagtggc tcacgtttgt aatcctagca ctttgagaga
ctgaggtgag cagatcgctt gagcccagga gtttgtgacc agcctgggca acatggtgaa
                                                                     1140
                                                                     1200
accetgtete tacgaaaaac acaaaaatta geeagatatg etageatgea tetgtagtee
catctactca ggaagctggg gcaggaggat cacctgagcc tggcaggttg aggcagcagt
                                                                     1260
gagccatgat tgtgccccac tgccctccac cctgggcaac agagaaagac cctgtgtcca
                                                                     1320
aaaaaaagga aatgaaaaaa aaggttggaa tctttctcct tgtgcacagg accacttctg
                                                                     1380
                                                                     1440
aaaattcctt tgggaaagta cagacatcat tgtactgcag tgcctggcat aactgtcaaa
agtagaaatt taagttttac caacttactt gcaaacaagg gatttcataa atatacgagt
                                                                     1500
                                                                     1560
ataatccttt gagattcaaa tttgcctttt aagttaaaca tgataagcaa ctctaactta
gtgagaaata gtgattttga atgtctagtt ggcctatttc aactcaaaaa ccaacaaggt
                                                                     1620
                                                                     1680
tttcagtttt ctaatggtaa ttctgatact aaataacatt acaggaaatt agactagtaa
gaattettaa cataggtatg ggaccactag caaaatgtga tgatgaaata gacactgcta
                                                                     1740
tttggagtaa tatatcagac tccactacct gatactcatt ttatttttt caatgtaaac
                                                                     1800
tttatgtcac atttcacagt attcacataa acttggcaca gtggtgcatg cctttaggcc
                                                                     1860
cagctactca ggaggctgag gctgaggcag gaggatcact tgaacccagg aattaggagt
                                                                     1920
ccagcctggg caacatagca agatccttgt ctcaaaaaaa aagactattc acgtaatttc
                                                                     1980
                                                                     2040
aagaatgata atggaagttt ttggtatact ttaaagaaga atctcttcat gtttctggta
                                                                     2100
atgggcctgt tgtttggacc ctattttaac ataaaacaat aggcttaaga gcttagtttt
                                                                     2160
cattttcatg gaatttttgg gttccatttt agtacagaaa tcatgaggat ccaaagacgc
                                                                     2220
tcctatgatt atttggtttt tcatttttat ttcacatagt caagtctttg atataaaaga
ttcagaaagg gactagatct tagaacactt caaagagctg tcttgccttc ctcagtctta
                                                                     2280
                                                                     2340
taggccagtg atatatgagc atttttcaa aattttaaaa ctatggttcg agtagataat
                                                                     2400
taaaaagtta agagccacta ccagagttat gctaggttta ttgtcagaat tttttatatt
                                                                     2460
tttaagattt gaccacttca tcaagttcat ctggtcctag agtttctggc tcaccttgtc
atcatagtga ttctaattct tctgagaaac acatgtcacg agcctctcaa agagaaggta
                                                                     2520
ggttaaaagt tggattttat aatcttgtaa caacagatta tgccaatctg attaattatt
                                                                     2580
gattgattaa aaccagtttt atggttttaa tccataaaaa taaaagcaat ggagatgagg
                                                                     2640
                                                                     2700
tgatttatcc ctcagtcatc atcttcaaaa agctaaccga gagtccctgg ggttgaatat
                                                                     2760
cttgagttaa atcttaatag aacttgagct ttggttttat tagctggact tagtttggtc
                                                                     2820
tagtttggag aggaagtagt tcagaaatat agatttcaat caagattgtt gtgaaaatta
agtgagatta tgcacgtgaa agctctgtat aaatataagt catgaatttt caggtaattg
                                                                      2880
tgaaagtcac ctggttaccc tcagactttt tgctctgcca tttccttgtc tgtgcaatgc
                                                                     2940
ctgacagctt ccaagggttt gtaggataaa gtgagctacc atctggctcc tctctgtatt
                                                                      3000
                                                                     3060
tcccagtttt ttcctagcca ttctggcaga actagttgct ctgccctata ccttccacca
                                                                      3120
cacccccca gttgaaatgg tttctgccta tacaaattcc acatactgtt cctcttcata
                                                                      3180
ctaactgacg tctaagctct tataccattc attgtttatt cttctctttg tgaactgagt
                                                                      3240
attaagagcc agagatggct tgcttttttt tttgtcattt tgggtcactt ttggagatag
                                                                      3300
acatttctct accttgttat tttgggcaga gactaaatct tagacttcta atttgtgttt
                                                                      3360
tcactgggtg gctttgccta gtagatgctg gttatcttgc atggctactt atgtcagtag
                                                                      3420
aatggtttaa gagctctttc taacctatat ggcctatcca cttgcctctg gatattgaag
                                                                      3480
tctgtgatat ttcactttaa ggttaaaggc tcctcctctt aaatttaaag atttatgccc
                                                                      3540
agaagtataa catttttcct ttgatttgta acacaaacat cttttgcaga ttcttcctgt
                                                                      3600
tctccttcca cttgtgctat gggaaacaag tcaaggcttc taataatcat tgagaaaaat
                                                                      3660
ctttattgat tgactacacc atccacaaga aaaagaaact taatttaaga agaatagtta
                                                                      3720
acatgettge ttgttattga ecagtggtaa acacacaaac acaaatatae agcagtteta
                                                                      3780
tgccacagag agttaagaat gagggaagag atgatatatg aggaggctgg gaagaagagg
```

aaaatgagag ggtgaaaaga gagggaaaac atgggagaag gtggggctta taggtgaagt 3840 3900 tgctctaaat gttggaaatc ctggatcttc agatgtcaga gtatgttaac actatccttt 3960 ggcagatata atagctgtat agagcagagg ctttcaaatg catttcagca ttagaactct atttttgaca tgaaatctgc tgtggattct tagagatgta gcacaaataa aatcaaagta 4020 gctctggttc aagaaaaatt agggaggctc ttgaccctcc agccttcccc actccatcta 4080 cacctcagcc cacacgtggt tccccacttt tgccatctcc tgaggaaccc caaaggagca 4140 4200 cagttagcaa accacctact tagaatgcat ttcttgtctg gttttgttat aggttttcca 4260 aattaattot taaaataaga gtatattttt ototaaaatt gttaaagtto aatcatatgt gaaatagtta tttcagtata gttttgttat agcagtgtaa tttagagctt cacaggtttc 4320 tgttaatgat gtagtaatct gaagggaatc tttagaaaga aggtaacaca tctgcttgac 4380 aagcaattca caaaggatct gacagaggga gctcaatacc ttcaaaataa ctccttccac 4440 4500 agtcagagaa gtgttgaaat atttctcttg ctattaaatt tctaagttgc ttccttacag 4560 tgtctatgaa agtggttttt cacgcacctg aaggatataa catattccta ttattaacag 4620 tgccttactc cagcagtcat tttcattggg agttaggtag aaggaaatga tgaggcatag 4680 tagagtctat gattggcaat gtctcccatc ccttgttttg acatgccttt atgtgaggtg 4740 tcctttctta cctccaacat tttatttttt gtttatagtg ttgttattgc aggtgcttaa gtcctgatct ttttatttgc ttaaaaggca atcctcatgg cttccaagta tttccttctc 4800 4860 tggaccagaa agcaccagga ccaatgagag gagaattgtt accttttacc tttctagagt cctttcatgt cacataactt tggttcttac ttaaataaag agctttctga gatgtaagat 4920 ccaaataaaa gaacccctag tcagcttcta tgccttagcc ttaggtcagt gacaattact 4980 gctgtgggaa cttggatctt ttgttctatt tatacccttt ccccacacct tcaccccgcc 5040 aaaactcaca caccatacat tggggagtac cacgctcttt aacatatggt agcataaggg 5100 gcagactaag gaatgacggc atgggaggtg gctgccagaa ataaaaagct ttgatgaact 5160 5220 gccttagttt tttgataata caaatcccac atcctcattt tcttatatct caggagtttc accacgaaat agtcttgaag tcgtaacccc tgaagttctt ggtgagagtg accacggaaa 5280 ctgcatcacg tccttacagc tgcacccaaa aggctgggcc actcttcttc ggtgctcaag 5340 5400 caacagtgat gatgaggagg tacaggcagc agcactccac cttcaacagg gctcattgga caaattgcca ttgccgtgtg tgcagagctt aggccgatcg ctgactgcag tctctgcctt 5460 caagggcata ctgctagaga tcctgcttct cgactctcct gtttctgtcc tctcttgctt 5520 catatggtat cattatccct tccaaactct tcttattcct ctcctgctgg ggttgagcaa 5580 ggtgggaggt actttaaagg ccagcatcag ctcagttttt gcccagcttc ttaaatcttg 5640 5700 aaacataggt ctgaaatgtt tcagctaagc tggctaaatg tgagatttta ctaagccaat 5760 tgagtatcat aattttcttt ttttaaaaac caggggaaac tctgggaaag gaagggacta 5820 tactgatgac tagggggaaa ggtgttaaat gactttatga ttctcatcac tctggaaagc 5880 aagagtette caaggatete aetggteeta gaggeeacaa etgaaaggag agaagagaag 5940 agcctttgaa ttgtgtaggg gaagaggtaa gatactctag ggcttggatg tactccagga 6000 6060 atttttaaaa tatcaacatt gttgttgccc ttagaaaaga gaatgtatta ctgcaaaagt 6120 cacaggcagc ctcagggaac aaaaggcttt aaagcatcat aacacagaat aacctcagct tatgaagata agaaagtagg gggcctacaa gttttgttag ttgggagggg gatagcatta 6180 ttctgagtga tttcttgtaa aaattctgtg gctttggcaa tctgttgagc tttttaaaaa 6240 6300 taaggaatat ctgtagcact atttgggctc tgtaaccttg gtttgtctcc cttctcccc cctagtgtac ttgtgtctat gaattccaag aaggagctcc agtgcgacct gtctcacctc 6360 gctgttctct acgactgact cattacattg aagaagccaa tgtaggcagg ggttacatca 6420 6480 aagaactttg cttcagcccc gatggacgaa tgatttcttc cccacatggc tatgggattc gcttgttggg atttgacaaa cagtgcagtg aacttgttga ctgcttgccc aaagaagcca 6540 gtcccctgcg ggtgatccgt tctctgtact ctcataatga tgtggtactg acaacaaagt 6600 tctctccaac acattgtcag attgcctcag ggtgccttag tggacgggtt tctttgtatc 6660 agccaaagtt ttaggcacaa cttacatcaa ataaggaact cttctggtgt ttgacttagg 6720 6780 aattgcttca atttagatga agtattttct ttttagaaga tcttataagt ttgggtcaag 6840 atcctggttc ttatgggtcc atgaacacac ttgtgacctt agtacttggt catccagcat 6900 catacaggca tctccaagtt agactctatg cagcatcatc ttttgcagca ttcctctgct 6960 cctgctgatc tgtgccactg aactccagtt cttctggtca ttttgcatgg tagctcttgt 7020 cacgttcctt ccttcctcac tctctatttc tctttccctc tccctgtccc tctctttctt 7080 tgtgtttgtt gattttggtg tcaattttgt ggacatttgg caggagtttt gactggggta 7140 ggagaaaccc atgacattag aattgaataa aacctagaag ttggatattg gcatattggt 7200 tgttgaaaaa taaatttcat cctcacttat gagtatactt ggccttttaa agttactgtt 7260 atgtttatct atattgagca cagataatgg cattattctt ataattgtta agatagtctt 7320 gcaacaaaat gtcttttaag tttcctgtta aaattataaa aagattttca tggtgagagg 7380 tgtatgaatt taacatctct agcatgtatc cttacttgat attttgttcc tatcaacagc 7440 attagaaagg aaaggagaca gaatgagctt tggttatttc tattgcacag aaaaggattt 7500 7560 ttaaaattag attagtataa tatctggcca tagagtgata agaacaatat gacttagatt 7620 ttctgtattt catctgccag attatttgaa tcacacagga tgatgtgtta acagtattag 7680 ggtggaagag gaatcaagag taaagaggta ggggtttact catttttctt ccctgagcca 7740 ggtgtgacaa gccaactctg tcaccattcg tgaggggaga gttgcagtcc tcttcaagct 7800 qttatcataa qtacagtagt cagctacttg gatatcaaga ctaagtgctg atatgaagac 7860 ttgcctttgt gttttgttat gaaacacgca agcataaagc aggactcaag cacaaggctg actgttctac tttgaataac agcttccttg cagtctcctc cacatgggtg gtactgtgtt 7920 7980 tagaagggat taccaaaggc tggagcgatt taagctatgc actagccttg ccctcttagg ttgcattctc tttaggccac tggttctcaa acattagggt gcactgtaac cattacagag 8040 cttgtgaaaa gtgcagaaac ctgagcctca ccttatgaga ttctgattca gccaggggga 8100 ggacaggaat ctgtattttt catagcaacc tcaagtaatc tttattctga gggtctcggg 8160 attgcaggtt gaaaaacaca accttaatca gcagtaaatt cttctctact cggccaggcg 8220 8280 cagtggctca tgcctgtaat cccagcactt tgggaggccg aggtgggtgg atcacaaggt caggagttcg agaccagcct gaccaacatg gtgaaacgcc atctctacta aaaatacaaa 8340 aattagccgg gcgtggtggt gctcacctgt aatcccagct acccaggagg ctgaggcaag 8400 agaatcactt gaacccggga ggcagagggt gcagtaagcc gagattgcac cactgcactc 8460 8520 cagcctaggc gacagagcga gactctgtct caaaaaaaaa aaaaaaaaa aaaaattctt ctctacccat ttgggcttaa gacaattccc agaaagtgtt ttcattattt aaaaaataat 8580 8640 aatagtaaat gaaagcaatt ttagaggtgg aaaatacctt agaatggaat catttgcatt atttgacaaa tgagagaagt gacatgactt gcctaaggtc atcctgcaaa gttagtggca 8700 gagttaggac ttgaattcca gtcttctaat tccttggtca gggcaatttc tactgtgtta 8760 8820 tgctgtctgt tagaaataat gacttatgga cactttgtct ttaagttgta ttattgtaaa 8880 tacccttaaa ctggccaata gattttagaa aggcaggcat gggagtagat gctgagaatt 8940 ctagccataa gaagaaaagt attttaaatc ttacagaaat gtttaaacaa cccaaaatac 9000 atgaataaaa atgacatttc tttgtaggac ctgccaacta actattcaca cacatttata gaggttataa ggatcttggc tctagaacaa atttttgaaa ttagatcatt ttaccatgga 9060 9120 tqttaacaaa attggaaatt ttttgtcact gagaaaatta tcacaaagca cagtaaatac 9180 atatacttac catacatttt gtaaaaaaca catttttaa agaaaatagg gatgggtatg 9240 gtggctcacg tctgtaatcc cagcactttg ggaggccaag gtgggaggtt cacttgagcc 9300 caggagttcc agaccagtct gggcaacatg gcgaaacccc atctctacca aaaatacaaa 9360 aattagatgg gcatgttggt acacgcctgt agtcctagct actcaggagg ctgaggtggg aggatggttt gagcctggga ggcagaggct gcagtgagcc aagattgcac tattgcactc 9420 9480 caccetggge aatagageea gateetgtet caaaaaataa aaatagaetg ggeatggtgg 9540 ctcatgcctg taatcccagc actttgggag gctgaggtgg gtggatcact tgaggtcagg 9600 agtttgagaa cagcctagcc aacatggtga aaccctgtct ctaccaaaaa tacaaaaatc 9660 atagccaagc gtggtggcag gtgcctgtaa tcccagctac tcaggaggct gaggcaggag actcgcatga acctgggagg cagaggttgc agtgagccga gatcgcacca ctgtactcta 9720 9780 9840 attagttttg gaggtgaaaa cacccaaact gttattattt aaaaatacct accaagtact 9900 gtggtcatat tgacattcaa aagaagtttc ataaatcgta tcaactctgg aaagagttca 9960 tgtcagatgc tagaccagca agttacccaa ctcaaaattc agccaatgat tctttactat 10020 agagtaccta tcatgtgtca aataatatac agacttcact actaaccctc acaaaaactt gcagggtagg tggaatgagc cccaatttaa tttggaggta atagtgggtc agaaagatta 10080 aatgacttgc cttaagtcat agagttagca gtgagtggca gcactgggat tcaaacccag 10140 gtttgtgtct tgtccaaagc ctgtgcttac tgctttacca ttgtgctctt tagtttgtaa 10200 agtatggtaa gctggcctgt tatttgttta gtatcttctg gatttttttt ttttaattat 10260 agagctagct taccgtgtgt atcatgtaaa aaaaattcat aagattaaca atttccatga 10320 gaatatcata aactcagggc acacattctg gccattcctg actaaaaaac ttcaagcaga 10380 ataagcagct ataaaataga aaagaaaaat taaggataaa cggcattgtg aaaaaaaacc 10440 10500 gagccacaca gatgagaatt aaaaattaac agccagcaaa ctcaaaagaa cctttgtcct ccttgagata tggtgatgat caaaaagtta gcaaggaata ttaatcaagg aattaaaggg 10560 cattaggaat gctatagtat tggaagaaat tacatcttaa catttcaaag ccccatttca 10620 cttaagagta aaatctaatc tgatgttttt tactctgaat tttattcagt aatttttatt 10680 cataattcat gataattggt aatgtagtat aattgttagt aaatgcagta caaattgttc 10740 10800 tactgtttta aaaagttttc cgcagaacag tgcatttatg gcaatgctat gtttaatgag ttagggacat caaatatata gtagttcctt attttcagtt gtgaaaatga aatggctaaa 10860 gcagaagaga cgtctatttt agtcttttaa aaatgtgtgt gggtggtctt ttttcctcag 10920 aagcccaaag cacatgtata ttttgttatt tctccttgct atattcctga gactatacta 10980 11040 aaaactttaa gaaaaggaac aagaaaaagg taaattcatg tgttccccac tgctgtgtct agaaccaaga tcacattata tcattgttaa aattgtgtta tctagaaagt gcaatatagg 11100

```
gaaaacactc taagaatctt ttaaaagcct agtgtttccc ttatttgtca gaatatgtgg
                                                                11160
tagtggcatc cataagtatc ttttaacttg catttagcag gacaaatagt gtgatactta
tactgatgac aatcatcccc atttaatgac cagcagtcac tgagcgctgt gaaaattcac
                                                                 11280
                                                                11340
tcagtgatac cccgtgttgg tcttgaagga aaccgtacat atgaattttt ggatagctaa
tgtatatctc tcaagtgcca acatttaaaa cttgtaatta tttttgatgt gagtatttca 11400
ggtatgttag tataccttcc tgccttcttc ttaaacatca tgctcagtat aattcacatt 11460
ttcatgatga aaagttaaag ttatattcat aatgtattat tataagtatc cagctctgat 11520
gtatgtaaaa cacttcataa aatgtaaagg gctataacaa atatgttata aagtgattct
ctcagccctg aggtatacag aatcatttgc ctcagactgc tgttggattt taaaattttt
aaaatatctg ctaagtaatt tgctatgtct tctcccacac tatcaatatg cctgcttcta
acaggeteec cactteette taatgtgetg ttatgagett tggacatgag ataacegtge
ctgttcagag tgtctacagt aagagctgga caaactctgg ggggacacag tctttgagac
                                                                 11880
agctcttttg gttgctttcc acttttctga aaggttcaca gtaaccttct agataataga
                                                                 11940
aactcccagt taaagcctag gctagcaatt ttttttagtt gcaactaagt aagatatact
                                                                 12000
acaaactaag gatgctgcta gactaaggaa taaacagcaa ggtaccaaag tacagcaaag
                                                                 12060
caacaacaaa ggctctgtat ttgcagaggg gtctatcatg cttttaagaa aaaagaagag
                                                                 12120
tacaggaaaa aaattcagat agacataaga gtattttgga tgccattaaa ctttgtcaat
aaccattaaa acataggctt aaattatcac gtattgttac aaagacacag ttttgtctca
                                                                 12180
ttataaaata agattatatg aaatttatat tctagaaatg attccaaatc atgtcctaag
                                                                 12300
aatttctccc attcaaatga taatggaaat tactgtcaaa aggaaaatct caaagttacc
                                                                 12360
attacgctgc tctcttgtaa atgaactagg gataaagata tgggttttat caaaagccct
                                                                 12420
aaggaatata totoacatto acctootata tgtatgtgta tatataaatg coactataaa
tgaaaatgtc acccagagat aataaaataa tttttaaagt ttaaatctgg tccaaagtct
                                                                 12480
ttaaaatagg tagattttca gctttcttaa gtttctccct catttagatt tcatggtttt
                                                                 12540
tacataaagg gtgaatattt gaattttctt ttaaatttca ctgcatcttc aattgcccaa
                                                                 12600
ctgtgtttcc tgataaattt tagattcaca tttttaggaa atttggagta ttccagacaa
                                                                 12660
tatactagat acccagaaac ttttctcagt aggttctgag gtgttttaag ttcttatgct
                                                                 12720
agactgtaag ctccttgagg gcagagactg ttttatttat tcttgtatcc tcagtgcctg
                                                                 12780
                                                                 12835
gtacaggact tgacacagag tagttgttca ataaatattt gttgaatgaa tcaaa
<210> 12840
<211> 12892
<212> DNA
<213> Homo sapiens
<400> 12840
                                                                    60
aggtatacag aagatgggtg tccacataag aaattettte acacacgttt tetcatgega
                                                                   120
atgaggttaa caccagattg ttccaaaatg ttgatttcaa cgtcctctgg atatctctta
attttgcatg accttgactt aactaagtct ttagaagtag gcagctatcc cattttaaga
                                                                   180
240
300
ggaagacagt tttttaaaag gcattcttta gaaagctcat tgatgggttt ttatctaagc
                                                                   360
aagtataatg atttgtatgt atctctgaca tatcattcat atgtacctct gaatcacaaa
                                                                   420
tggactagga ggaataactg ctgaccctaa agtattttct tttagcttta tgctagccac
                                                                   480
aggatetttt cateagtaat titgaateat caetatetea aaaattagig atggeacaag
                                                                   540
gtcttaagtc cttctggaat caagcagagc ttttattaaa ttatggtcaa tatagagttt
                                                                   600
tagttttatc tgtatcctag acttacagat gtccagacac aggtagctgg tgccatctta
                                                                   660
tctcattact ctctaaacgc tcttttgcta aaactctgtc tcttctccca ttgctgattt
                                                                   720
tgttagactt aagagaattt agggttcaga aaaatgtacg tattgtattt tatcaacatt
                                                                   780
atgtgattta aaaaagacta tatttcatct acctttggga aagaggggac tggtgtgggg
                                                                   840
                                                                   900
acatacccat catttacatt ataaacaaaa atccagggga aaaaagactt aagcatttgg
aacatagaat gctaataaat ttttattaaa aggcagcttt gaatggttgg ggccaggtgc
                                                                   960
gggggctcac acctgtaatc ccatcacttt gggaggccaa ggtgggagga tcgcttgagc
                                                                   1020
ccaggagttg aactcaaggg tagcctgggc aacataggaa gacctcatct ctacaaataa
                                                                   1080
                                                                  1140
cttaaaaatt tagccaggtg cagtggctca cgtttgtaat cctagcactt tgagagactg
aggtgagcag atcgcttgag cccaggagtt tgtgaccagc ctgggcaaca tggtgaaacc
                                                                  1200
                                                                  1260
ctgtctctac gaaaaacaca aaaattagcc agatatgcta gcatgcatct gtagtcccat
                                                                   1320
ctactcagga agctggggca ggaggatcac ctgagcctgg caggttgagg cagcagtgag
ccatgattgt gccccactgc cctccaccct gggcaacaga gaaagaccct gtgtccaaaa
                                                                   1380
                                                                   1440
aaaaggaaat gaaaaaaaag gttggaatct ttctccttgt gcacaggacc acttctgaaa
```

attcctttgg gaaagtacag acatcattgt actgcagtgc ctggcataac tgtcaaaagt 1500 1560 agaaatttaa gttttaccaa cttacttgca aacaagggat ttcataaata tacgagtata atcctttgag attcaaattt gccttttaag ttaaacatga taagcaactc taacttagtg 1620 1680 agaaatagtg attttgaatg tctagttggc ctatttcaac tcaaaaacca acaaggtttt 1740 caqttttcta atggtaattc tgatactaaa taacattaca ggaaattaga ctagtaagaa 1800 ttcttaacat aggtatggga ccactagcaa aatgtgatga tgaaatagac actgctattt 1860 ggagtaatat atcagactcc actacctgat actcatttta tttttttcaa tgtaaacttt 1920 atgtcacatt tcacagtatt cacataaact tggcacagtg gtgcatgcct ttaggcccag ctactcagga ggctgaggct gaggcaggag gatcacttga acccaggaat taggagtcca 1980 2040 gcctgggcaa catagcaaga tccttgtctc aaaaaaaaag actattcacg taatttcaag aatgataatg gaagtttttg gtatacttta aagaagaatc tcttcatgtt tctggtaatg 2100 ggcctgttgt ttggacccta ttttaacata aaacaatagg cttaagagct tagttttcat 2160 2220 tttcatggaa tttttgggtt ccattttagt acagaaatca tgaggatcca aagacgctcc tatgattatt tggtttttca tttttatttc acatagtcaa gtctttgata taaaagattc 2280 agaaagggac tagatettag aacaetteaa agagetgtet tgeetteete agtettatag 2340 gccagtgata tatgagcatt ttttcaaaat tttaaaccta tggttcgagt agataattaa 2400 aaagttaaga gccactccca gagttatgct aggtttattg tcagaatttt ttatattttt 2460 aagatttgac cacttcatca agttcatctg gtcctagagt ttctggctca ccttgtcatc 2520 2580 atagtgattc taattcttct gagaaacaca tgtcacgagc ctctcaaaga gaaggtaggt taaaagttgg attttataat cttgtaacaa cagattatgc caatctgatt aattattgat 2640 2700 tgattaaaac cagttttatg gttttaatcc ataaaaataa aagcaatgga gatgaggtga 2760 tttatccctc agtcatcatc ttcaaaaagc taaccgagag tccctggggt tgaatatctt 2820 gagttaaatc ttaatagaac ttgagctttg gttttattag ctggacttag tttggtctag 2880 tttqqaqaqq aagtagttca gaaatataga tttcaatcaa gattgttgtg aaaattaagt 2940 gagattatgc acgtgaaagc tctgtataaa tataagtcat gaattttcag gtaattgtga 3000 aaqtcacctq qttaccctca gactttttgc tctgccattt ccttgtctgt gcaatgcctg acagcttcca agggtttgta ggataaagtg agctaccatc tggctcctct ctgtatttcc 3060 3120 cagttttttc ctagccattc tggcagaact agttgctctg ccctatacct tccaccacac 3180 cccccagtt gaaatggttt ctgcctatac aaattccaca tactgttcct cttcatacta 3240 actgacgtct aagctcttat accattcatt gtttattctt ctctttgtga actgagtatt 3300 aagagccaga gatggcttgc ttttttttt gtcattttgg gtcacttttg gagatagaca 3360 tttctctacc ttgttatttt gggcagagac taaatcttag acttctaatt tgtgttttca 3420 ctgggtggct ttgcctagta gatgctggtt atcttgcatg gctacttatg tcagtagaat ggtttaagag ctctttctaa cctatatggc ctatccactt gcctctggat attgaagtct 3480 gtgatatttc actttaaggt taaaggctcc tcctcttaaa tttaaagatt tatgcccaga 3540 3600 agtataacat ttttcctttg atttgtaaca caaacatctt ttgcagattc ttcctgttct 3660 ccttccactt gtgctatggg aaacaagtca aggcttctaa taatcattga gaaaaatctt 3720 tattgattga ctacaccatc cacaagaaaa agaaacttaa tttaagaaga atagttaaca tgcttgcttg ttattgacca gtggtaaaca cacaaacaca aatatacagc agttctatgc 3780 cacagagagt taagaatgag ggaagagatg atatatgagg aggctgggaa gaagaggaaa 3840 3900 atgagagggt ,gaaaagagag ggaaaacatg ggagaaggtg gggcttatag gtgaagttgc 3960 tctaaatgtt ggaaatcctg gatcttcaga tgtcagagta tgttaacact atcctttggc 4020 agatataata gctgtataga gcagaggctt tcaaatgcat ttcagcatta gaactctatt tttgacatga aatctgctgt ggattcttag agatgtagca caaataaaat caaagtagct 4080 ctggttcaag aaaaattagg gaggctcttg accctccagc cttccccact ccatctacac 4140 4200 ctcagcccac acgtggttcc ccacttttgc catctcctga ggaaccccaa aggagcacag ttagcaaacc acctacttag aatgcatttc ttgtctggtt ttgttatagg ttttccaaat 4260 taattottaa aataagagta tattttoto taaaattgtt aaagttoaat catatgtgaa 4320 4380 atagttattt cagtatagtt ttgttatagc agtgtaattt agagcttcac aggtttctgt taatgatgta gtaatctgaa gggaatcttt agaaagaagg taacacatct gcttgacaag 4440 caattcacaa aggatctgac agagggagct caataccttc aaaataactc cttccacagt 4500 cagagaagtg ttgaaatatt tctcttgcta ttaaatttct aagttgcttc cttacagtgt 4560 ctatgaaagt ggtttttcac gcacctgaag gatataacat attcctatta ttaacagtgc 4620 4680 cttactccag cagtcatttt cattgggagt taggtagaag gaaatgatga ggcatagtag 4740 agtctatgat tggcaatgtc tcccatccct tgttttgaca tgcctttatg tgaggtgtcc 4800 tttcttacct ccaacatttt attttttgtt tatagtgttg ttattgcagg tgcttaagtc ctgatctttt tatttgctta aaaggcaatc ctcatggctt ccaagtattt ccttctctgg 4860 accagaaagc accaggacca atgagaggag aattgttacc ttttaccttt ctagagtcct 4920 ttcatgtcac ataactttgg ttcttactta aataaagagc tttctgagat gtaagatcca 4980 aataaaagaa cccctagtca gcttctatgc cttagcctta ggtcagtgac aattactgct 5040 gtgggaactt ggatcttttg ttctatttat accctttccc cacaccttca ccccgccaaa 5100

5160 actcacaca catacattgg ggagtaccac gctctttaac atatggtagc ataaggggca 5220 gactaaggaa tgacggcatg ggaggtggct gccagaaata aaaagctttg atgaactgcc ttagtttttt gataatacaa atcccacatc ctcattttct tatatctcag gagtttcacc 5280 acgaaatagt cttgaagtcg taacccctga agttcttggt gagagtgacc acggaaactg 5340 catcacgtcc ttacagctgc acccaaaagg ctgggccact cttcttcggt gctcaagcaa 5400 5460 cagtgatgat gaggaggtac aggcagcagc actccacctt caacagggct cattggacaa 5520 attgccattg ccgtgtgtgc agagcttagg ccgatcgctg actgcagtct ctgccttcaa gggcatactg ctagagatcc tgcttctcga ctctcctgtt tctgtcctct cttgcttcat 5580 atggtatcat tatcccttcc aaactcttct tattcctctc ctgctggggt tgagcaaggt 5640 5700 gggaggtact ttaaaggcca gcatcagctc agtttttgcc cagcttctta aatcttgcct 5760 5820 cataggtctg aaatgtttca gctaagctgg ctaaatgtga gattttacta agccaattga 5880 gtatcataat tttcttttt taaaaaccag gggaaactct gggaaaggaa gggactatac tgatgactag ggggaaaggt gttaaatgac tttatgattc tcatcactct ggaaagcaag 5940 6000 agtcttccaa ggatctcact ggtcctagag gccacaactg aaaggagaga agagaagagc 6060 ctttgaattg tgtaggggaa gaggtaagat actctagggc ttggatgtac tccaggaatt 6120 tttaaaatat caacattgtt gttgccctta gaaaagagaa tgtattactg caaaagtcac 6180 aggcagcctc agggaacaaa aggctttaaa gcatcataac acagaataac ctcagcttat 6240 gaagataaga aagtaggggg cctacaagtt ttgttagttg ggagggggat agcattattc 6300 tgagtgattt cttgtaaaaa ttctgtggct ttggcaatct gttgagcttt ttaaaaaataa ggaatatctg tagcactatt tgggctctgt aaccttggtt tgtctccctt ctctccccct 6360 6420 agtgtacttg tgtctatgaa ttccaagaag gagctccagt gcgacctgtc tcacctcgct 6480 gttctctacg actgactcat tacattgaag aagccaatgt aggcaggggt tacatcaaag 6540 aactttgctt cagccccgat ggacgaatga tttcttcccc acatggctat gggattcgct 6600 tgttgggatt tgacaaacag tgcagtgaac ttgttgactg cttgcccaaa gaagccagtc 6660 ccctgcgggt gatccgttct ctgtactctc ataatgatgt ggtactgaca acaaagttct 6720 ctccaacaca ttgtcagatt gcctcagggt gccttagtgg acgggtttct ttgtatcagc 6780 caaagtttta ggcacaactt acatcaaata aggaactctt ctggtgtttg acttaggaat tgcttcaatt tagatgaagt attttctttt tagaagatct tataagtttg ggtcaagatc 6840 ctggttctta tgggtccatg aacacacttg tgaccttagt acttggtcat ccagcatcat 6900 acaggcatct ccaagttaga ctctatgcag catcatcttt tgcagcattc ctctgctcct 6960 gctgatctgt gccactgaac tccagttctt ctggtcattt tgcatggtag ctcttgtcac 7020 7080 gtteetteet teeteactet etattetet tteeetetee etgteeetet etttettgt gtttgttgat tttggtgtca attttgtgga catttggcag gagttttgac tggggtagga 7140 gaaacccatg acattagaat tgaataaaac ctagaagttg gatattggca tattggttgt 7200 tgaaaaataa atttcatcct cacttatgag tatacttggc cttttaaagt tactgttatg 7260 tttatctata ttgagcacag ataatggcat tattcttata attgttaaga tagtcttgca 7320 7380 acaaaatgtc ttttaagttt cctgttaaaa ttataaaaag attttcatgg tgagagggat 7440 tttattgtga aattctagaa aaaaatatta ccacctctct ttgtaattta ctttacttgt atgaatttaa catctctagc atgtatcctt acttgatatt ttgttcctat caacagcatt 7500 agaaaggaaa ggagacagaa tgagctttgg ttatttctat tgcacagaaa aggattttta 7560 aaattagatt agtataatat ctggccatag agtgataaga acaatatgac ttagattttc 7620 tgtatttcat ctgccagatt atttgaatca cacaggatga tgtgttaaca gtattagggt 7680 7740 ggaagaggaa tcaagagtaa agaggtaggg gtttactcat ttttcttccc tgagccaggt 7800 gtgacaagcc aactetgtca ccattegtga ggggagagtt gcagteetet teaagetgtt atcataagta cagtagtcag ctacttggat atcaagacta agtgctgata tgaagacttg 7860 cctttgtgtt ttgttatgaa acacgcaagc ataaagcagg actcaagcac aaggctgact 7920 gttctacttt gaataacagc ttccttgcag tctcctccac atgggtggta ctgtgtttag 7980 aagggattac caaaggctgg agcgatttaa gctatgcact agccttgccc tcttaggttg 8040 8100 cattetettt aggecaetgg tteteaaaca ttagggtgea etgtaaceat tacagagett gtgaaaagtg cagaaacctg agcctcacct tatgagattc tgattcagcc agggggagga 8160 caggaatctg tatttttcat agcaacctca agtaatcttt attctgaggg tctcgggatt 8220 8280 gcaggttgaa aaacacaacc ttaatcagca gtaaattctt ctctactcgg ccaggcgcag 8340 tggctcatgc ctgtaatccc agcactttgg gaggccgagg tgggtggatc acaaggtcag 8400 gagttcgaga ccagcctgac caacatggtg aaacgccatc tctactaaaa atacaaaaat 8460 tagccgggcg tggtggtgct cacctgtaat cccagctacc caggaggctg aggcaagaga atcacttgaa cccgggaggc agagcgtgca gtaagccgag attgcaccac tgcactccag 8520 8580 tacccatttg ggcttaagac aattcccaga aagtgttttc attatttaaa aaataataat 8640 agtaaatgaa agcaatttta gaggtggaaa ataccttaga atggaatcat ttgcattatt 8700 tgacaaatga gagaagtgac atgacttgcc taaggtcatc ctgcaaagtt agtggcagag 8760

8820 ttaggacttg aattccagtc ttctaattcc ttggtcaggg caatttctac tgtgttatgc tgtctgttag aaataatgac ttatggacac tttgtcttta agttgtatta ttgtaaatac 8880 8940 ccttaaactq qccaataqat tttagaaagg caggcatggg agtagatgct gagaattcta 9000 gccataagaa gaaaagtatt ttaaatctta cagaaatgtt taaacaaccc aaaatacatg 9060 aataaaaatg acatttcttt gtaggacctg ccaactaact attcacacac atttatagag 9120 gttataagga tcttggctct agaacaaatt tttgaaatta gatcatttta ccatggatgt taacaaaatt ggaaattttt tgtcactgag aaaattatca caaagcacag taaatacata 9180 tacttaccat acattttgta aaaaacacat tttttaaaga aaatagggat gggtatggtg 9240 gctcacgtct gtaatcccag cactttggga ggccaaggtg ggaggttcac ttgagcccag 9300 gagttccaga ccagtctggg caacatggcg aaaccccatc tctaccaaaa atacaaaaat 9360 9420 tagatgggca tgttggtaca cgcctgtagt cctagctact caggaggctg aggtgggagg atggtttgag cctgggaggc agaggctgca gtgagccaag attgcactat tgcactccac 9480 9540 cctgggcaat agagccagat cctgtctcaa aaaataaaaa tagactgggc atggtggctc 9600 atgcctgtaa tcccagcact ttgggaggct gaggtgggtg gatcacttga ggtcaggagt 9660 ttgagaacag cctagccaac atggtgaaac cctgtctcta ccaaaaatac aaaaatcata 9720 gccaagcgtg gtggcaggtg cctgtaatcc cagctactca ggaggctgag gcaggagact 9780 cgcatgaacc tgggaggcag aggttgcagt gagccgagat cgcaccactg tactctagcc 9840 9900 agttttggag gtgaaaacac ccaaactgtt attatttaaa aatacctacc aagtactgtg 9960 gtcatattga cattcaaaag aagtttcata aatcgtatca actctggaaa gagttcatgt cagatgctag accagcaagt tacccaactc aaaattcagc caatgattct ttactataga 10020 gtacctatca tgtgtcaaat aatatacaga cttcactact aaccctcaca aaaacttgca 10080 gggtaggtgg aatgagcccc aatttaattt ggaggtaata gtgggtcaga aagattaaat 10140 10200 gacttgcctt aagtcataga gttagcagtg agtggcagca ctgggattca aacccaggtt 10260 tgtgtcttgt ccaaagcctg tgcttactgc tttaccattg tgctctttag tttgtaaagt 10320 10380 gctagcttac cgtgtgtatc atgtaaaaaa aattcataag attaacaatt tccatgagaa tatcataaac tcagggcaca cattctggcc attcctgact aaaaaacttc aagcagaata 10440 10500 agcagctata aaatagaaaa gaaaaattaa ggataaacgg cattgtgaaa aaaaaccgag ccacacagat gagaattaaa aattaacagc cagcaaactc aaaagaacct ttgtcctcct 1.0560 tgagatatgg tgatgatcaa aaagttagca aggaatatta atcaaggaat taaagggcat 10620 taggaatgct atagtattgg aagaaattac atcttaacat ttcaaagccc catttcactt 10680 aagagtaaaa totaatotga tgttttttao totgaatttt attoagtaat ttttattoat 10740 aattcatgat aattggtaat gtagtataat tgttagtaaa tgcagtacaa attgttctac 10800 tgttttaaaa agttttccgc agaacagtgc atttatggca atgctatgtt taatgagtta 10860 gggacatcaa atatatagta gttccttatt ttcagttgtg aaaatgaaat ggctaaagca 10920 gaagagacgt ctattttagt cttttaaaaa tgtgtgtggg tggtcttttt tcctcagaag 10980 cccaaagcac atgtatattt tgttatttct ccttgctata ttcctgagac tatactaaaa 11040 actttaagaa aaggaacaag aaaaaggtaa attcatgtgt tccccactgc tgtgtctaga 11100 accaagatca cattatatca ttgttaaaat tgtgttatct agaaagtgca atatagggaa 11160 aacactctaa gaatctttta aaagcctagt gtttccctta tttgtcagaa tatgtggtag 11220 tggcatccat aagtatcttt taacttgcat ttagcaggac aaatagtgtg atacttatac 11280 tgatgacaat catccccatt taatgaccag cagtcactga gcgctgtgaa aattcactca 11340 gtgatacccc gtgttggtct tgaaggaaac cgtacatatg aatttttgga tagctaatgt 11400 11460 atatctctca agtgccaaca tttaaaactt gtaattattt ttgatgtgag tatttcaggt atgttagtat accttcctgc cttcttctta aacatcatgc tcagtataat tcacattttc 11520 atgatgaaaa gttaaagtta tattcataat gtattattat aagtatccag ctctgatgta 11580 tgtaaaacac ttcataaaat gtaaagggct ataacaaata tgttataaag tgattctctc 11640 agccctgagg tatacagaat catttgcctc agactgctgt tggattttaa aatttttaaa 11700 atatctgcta agtaatttgc tatgtcttct cccacactat caatatgcct gcttctaaca 11760 ggctccccac tttcttctaa tgtgctgtta tgagctttgg acatgagata accgtgcctg 11820 ttcagagtgt ctacagtaag agctggacaa actctggggg gacacagtct ttgagacagc 11880 11940 tcttttggtt gctttccact tttctgaaag gttcacagta accttctaga taatagaaac tcccagttaa agcctaggct agcaattttt tttagttgca actaagtaag atatactaca 12000 12060 caacaaaggc tctgtatttg cagaggggtc tatcatgctt ttaagaaaaa agaagagtac 12120 aggaaaaaaa ttcagataga cataagagta ttttggatgc cattaaactt tgtcaataac 12180 cattaaaaca taggcttaaa ttatcacgta ttgttacaaa gacacagttt tgtctcatta 12240 taaaataaga ttatatgaaa tttatattct agaaatgatt ccaaatcatg tcctaagaat 12300 ttctcccatt caaatgataa tggaaattac tgtcaaaagg aaaatctcaa agttaccatt 12360 acgctgctct cttgtaaatg aactagggat aaagatatgg gttttatcaa aagccctaag 12420

```
qaatatatet eacatteace teetatatgt atgtgtatat ataaatgeea etataaatga 12480
aaatgtcacc cagagataat aaaataattt ttaaagttta aatctggtcc aaagtcttta 12540
aaataggtag attttcagct ttcttaagtt tctccctcat ttagatttca tggtttttac 12600
ataaagggtg aatatttgaa ttttctttta aatttcactg catcttcaat tgcccaactg 12660
tgtttcctga taaattttag attcacattt ttaggaaatt tggagtattc cagacaatat 12720
actagatacc cagaaacttt teteagtagg ttetgaggtg ttttaagtte ttatgetaga 12780
ctgtaagctc cttgagggca gagactgttt tatttattct tgtatcctca gtgcctggta 12840
caggacttga cacagagtag ttgttcaata aatatttgtt gaatgaatca aa
                                                                   12892
<210> 12841
<211> 614
<212> DNA
<213> Homo sapiens
<400> 12841
gcagattatt ccgtaataga ggaatccatc atttattatt ataattaaca gactatattc
                                                                       60
atcagggtaa gatctgttct gaccataagc aagcaaacat ttctcattga cttggaaaac
                                                                      120
tgcaagttaa gactcagttt ttcattcaac gaacatttga atccctatta tatgcctagt
                                                                      180
ttagtactgg gaactcaagg gacaaagata actatcgtct tggtattcca tagctgtagt
                                                                      240
                                                                      300
tgaaagagat ttagattcag ggctggctta aagaggttgt acatgtgcag ttacatagtg
tcccatactt agaaagattc catgtaggct gggtgcagta gctcacacct gtaatcccag
                                                                      360
                                                                      420
cactttggga agccgaggca ggaggatcgc ttgagcccgg gagtttgaga ccagcctggg
                                                                      480
gaacataatg agaccccatt tctacaaaaa atgaaaacac aattagccag gcatggcggc
                                                                      540
atacacctat agtcccagct actcgggaaa ctgaggtggg aggatcacct gagcccaaga
                                                                      600
aqttqagact gcagtaagct gagagcacac cactgcactc cagcctgggc aacagagtga
                                                                      614
gattgcctca aaaa
<210> 12842
<211> 614
<212> DNA
<213> Homo sapiens
<400> 12842
gcagattatt ccgtaataga ggaatccatc atttattatt ataattaaca gactatattc
                                                                       60
                                                                      120
atcagggtaa gatctgttct gaccataagc aagcaaacat ttctcattga cttggaaaac
                                                                      180
tqcaaqttaa gactcagttt ttcattcaac gaacatttga atccctatta tatgcctagt
ttagtactgg gaactcaagg gacaaagata actatcgtct tggtattcca tagctgtagt
                                                                      240
tgaaagagat ttagattcag ggctggctta aagaggttgt acatgtgcag ttacatagtg
                                                                      300
tcccatactt agaaagattc catgtaggct gggtgcagta gctcacacct gtaatcccag
                                                                      360
                                                                      420
cactttggga agccgaggca ggaggatcgc ttgagcccgg gagtttgaga ccagcctggg
                                                                      480
gaacataatg agaccccatt tctacaaaaa atgaaaacac aattagccag gcatggcggc
atacacctat agtcccagct actcgggaaa ctgaggtggg aggatcacct gagcccaaga
                                                                      540
                                                                      600
agttgagact gcagtaagct gagagcacac cactgcactc cagcctgggc aacagagtga
                                                                      614
gattgcctca aaaa
<210> 12843
<211> 25550
<212> DNA
<213> Homo sapiens
<400> 12843
ctactgtcat cctacaagga ggggctcttg gaccagcagc aaggggatgt gaagacggga
                                                                       60
gccatgaaga accttctggc tcccatggac accgtgctta acaggctggt tgatgctggc
                                                                      120
tactgtgcag catcccttca tacctctgtt gtggccaact cagtggcctt gctgtataag
                                                                      180
                                                                      240
ctctttctag attcttactt taaggaggga aaccagcttc tctgcttcca ggttctcccc
                                                                      300
aggttgtttg gctgcttgaa gatttcacac ctgcaggagg agcagagcaa agccctgtcc
acatcagatt ggaccacaga gcttttggtt gtggaacagc tactaaactc agtggccaac
                                                                      360
aacaatatct acaacatcgc tgccgacaga attcggcacg aagaggctca gttccgcttt
                                                                      420
```

```
480
taccgccacg tggctgagct gctgataaac catgcacaag cacccatacc ggcctggttc
cgctgtctga agactttgat atctctgaat catttgattt tggagccaga cctggatgac
                                                                      540
                                                                      600
ctgctggctt cagcgtggat cgatgccgag gtaacagagt ttcgaaccaa aaaagcccag
                                                                      660
gaggcgctta ttcgtactgt cttccagact tatgccaaac tccgacaagt gccacggttg
tttgaagagg ttttgggggt gatctgtcgt ccagctgctg aggcactgag gcagcctgtg
                                                                      720
                                                                      780
ctggcctcgg gcccctccac ggtactctct gcatgcctcc tggagctgcc tccaagtcag
atcctggaca cgtggtccct tgtgctggag aagttccagt ctttagtctt gccctatttg
                                                                      840
cagagtgatg ccgacatggc cctgaaatca ctgtcactga gcttgctgct gcactgcatc
                                                                      900
atgttcaaca tgaggagcct ggacagcagc acgcctctgc ccattgtcag acggacacag
                                                                      960
tgcatgatgg agaggatgat gagggagctc gtgcagcccc tgctggccct tctcccggac
                                                                     1020
                                                                     1080
accccaggcc cagagccaga gctgtggctg cagaaggtca gtgactctgt gctcctgctc
tottacactt gggcccaggt ggacgctatg ttcagtttga actgtagcca gtatcactct
                                                                     1140
                                                                     1200
atgtctgggc cccttatagg tgttgctctg gagatctcga acctcccttc gttgctccca
                                                                     1260
ggtgtaaaaa cacagcattg gaagaagata gagaagttta cagctcagtt cagctctctt
                                                                     1320
ggtacatatt gcttagaaca gctgtacctg cagaaaatga aaaggacttt aatgcaaact
agtttccggt ctgaaggagc catccaaagt ttgaggtgcg atgctgcctt tattattggt
                                                                     1380
                                                                     1440
tccggcagaa aaagcttgaa tcagagaacg acggcttcct gggatggcca agttgggatg
                                                                     1500
gtgagtggac tcacataccc tgtagcacac tggcacttga ttgtgtcaaa tctcacaatt
                                                                     1560
ttaatatcct atctgtgtcc agatgatgtg ggatacctgg ccagtgtcct gctgagaact
                                                                     1620
ttacccatgg gcaaagccca ggaagtctca atagatgaag aggcatacat cacactggaa
                                                                     1680
aaaatatcca aagccttcct tcatagccct ctctttccag agatgcagtc ccttcattct
gctttcttaa cgtgcgtaac cacaagttgc tccagcattc tgtgttctgg tgcccagcgt
                                                                     1740
                                                                     1800
gactcaggtc ttgtcagtca gcagcttccc tggctttttg aaaaggacca catggttgtg
                                                                     1860
ggtcattggg aaaacagatt tgcaaaagct ggacccgaag gtatagaacc tagaggagaa
                                                                     1920
attgcccaga acttactgtc cctggtcaag agtgacttcc ctatccagct ggagggagag
                                                                     1980
cagttggaaa gcatcctggg gcttttggaa gtgatttctg ccttacagct ggacagcctc
                                                                     2040
ttgccaccct atcatgtgca ttattttctt gtgttactgt ccatggccgt caccaaacta
                                                                     2100
ggatgctctt gctcctcctc actggctctc aagttcttga cgacttgcta ccaacttctt
                                                                     2160
ggttacttgc aaaaggggaa aagtgctcgc tctgtgttca agatcatgta tggtagtgat
atttttgagg ttgtactgac ctcattgttc agagctagta gtaggttcct tattgagatg
                                                                     2220
gatgatcccg cttggctgga attcctccaa gtgataggga cgttcttaga ggagctaatg
                                                                     2280
cagatgetea tecaaatgaa getgagettg gtgeteaatt ttagaaaaat caeegeatte
                                                                     2340
                                                                     2400
ctctctagtt ccaaaccata cacggaggca gcttcaagca aacaattaga aaatcagaac
ccccagggca ggcagctcct tctggtgtct ttaaccaggt tgtgccatgt cctgggacct
                                                                     2460
                                                                     2520
ttcctcaaag agcagaagct gggccaagag gccccagcag cactgtctga gctgctgcag
caggttgtgc tgcagacagg agctgtgctg cagctctgct cagtgccggg ggcccggggc
                                                                     2580
tggcgccttc cctcggtcct catctcatcc gtcagcacgc tcttggaagc cgacctgggt
                                                                     2640
cagcactgca gggatggagg ggccgacatt tcccaaggaa gcgacaggac gctgctctcc
                                                                     2700
catgttgccc tctaccaggg tgtttactct cagatactgt tggagttgcc agctctcgcg
                                                                     2760
ggacatgatc agtcttttca ggcagccttg cagtttttga ctctgttctt tttggcccca
                                                                     2820
gaactgcatc ccaaaaagga ctccgtgttt acctccatgt ttcattctgt gagaagagtt
                                                                     2880
                                                                     2940
cttgcaggta agatattttc tcttgagcta attctgtgtt atagaggtct ggtttccact
                                                                     3000
gctccccttt ttggaactgg gaataagtga acacgtgatg tgttcaaaag gtaccacatg
tgcggctggg tgcggtggct tacacctgta atcccagcac tttgggaggc cgaggcgggc
                                                                     3060
ggatcacaag gccaggagat cgagaccatc ctggctaaca cggagaaacc ccatctctag
                                                                     3120
                                                                     3180
taaaaaatac aaataattag ccgggtgtgg tggcaggcgc ctgtagtccc agctactcgg
gaggctgagg caggagaatg gcgtgaaccc aggaggcaga gcttgcagtg agccaagatc
                                                                     3240
gcgccactgc actctagctt gggcgacaga gcgagagtct gtctcaaaaa aaaaaaaaag
                                                                     3300
tactacatgt ggacagtgag aagacctccc ttctaggccc agcacccacg acttcatgcc
                                                                     3360
ctctatttac attctaggcg tacataagca attactgcta caacggtttc cttgctttct
                                                                     3420
gtgcaaacag cagcctcctc cgtatgttgc tctgcacctc agttgctcac tgattttgga
                                                                     3480
ggttgctctg tgtacgttta tagttttgaa atctgctcct cttcagcttt ttagccttta
                                                                     3540
acttgtcctg gctgcaatga gatacataga tacctgcatc cttagtaggt tcttatgtat
                                                                      3600
cagactttca gtgccataaa ttgactttaa aaagatatga aaatctgcca actttaaaaa
                                                                      3660
agtacaaatc agagccaggc gtggcagctc acgccagtaa tcccagcact ttgggaggct
                                                                     3720
gagggggcag attgcttgag tccaggcaac atggcaaaac cccatctcta caaaaaatac
                                                                      3780
aaaaattggc caggcatggt ggcatgcgtc tgtagtccca gctactcagg aggttgaagt
                                                                      3840
                                                                     3900
gggaggatca cctgagccca gggaggtcgg tgctgcagtg agtcttgatc ctgccattgt
actccagcct gggtgacaca gtgagatcct gtctcataaa aaaataaatt aaaaaaagta
                                                                      3960
caaatcactt aatttetttt tttttttt ttgagatgga gteteaetet gtetaecagg
                                                                      4020
atggagtgca gtggtgcaat ctcagctcac tgcaagctcc gcttcccggg ttcatgccat
                                                                      4080
```

4140 tctcctgcct cagcctccca agtaactggg actactggca cccgccacca cgcccggcta attttttgt attttttagt aaagacaggg tttcaccatg ttagccagga tggtctcgat 4200 atcctgacct cattatccgc ccacctcagc ctcccaaagt actgggatta caggcgtgag 4260 ccaccatgtc cagccaaatc acttaatttc caaagagcct cttacagttc cttgaggaca 4320 ggactgtgcc ttccttagtt caccctgtc ccccaccat attagggtgc tgccaggtgc 4380 aagtgctcac tggaccaagg ctaaccttca atgtcatcaa agtgttttag tctgaaggca 4440 gccttccaag cagcaaacta ggacctcgta cacagcctcg aagcaagaga gctcatgtct 4500 tcctgcacag agtcgacctt tacagccccc ctggtgaaag gttaatgggt tactatgcag 4560 4620 ccqttaaaaa tataattatg aaaactatta tgaagacaag ggctagaaat atctagaaaa tattaagcaa aaaaagtaca gtatgaaatg ttaaatatgc cacaattaca gctatataag 4680 4740 atatacatgc gtgcagacaa aggctagaaa cccatccaaa aattaaaata attattgtat 4800 taacatgcat gtattaacat gcattgtatt attgcattaa catgttgtga ttgttgctat 4860 tttcttattt tgtacacttt aatgttgcat tttaataaga ataaatcaaa atacttttct 4920 atgatttaat taaatatgcc ataagcaggg gatagattat aatgtttttg gaggcccatt 4980 tagagtttgt tgaggttttc ctctacagtg aaggatgatt aagatttgtt acctttatta 5040 qqqtatacaa ataaaacaca cttttactcc tcccaaacaa acagttaatg gaagagattt 5100 cttgtttcaa gatggcacac atcacagttg tggggggtct tttctttttt gttttggtgg 5160 taacgaaagg gctggggtca ggtcagtctt ttgaggtgag gtctggaagt cagccgaatc 5220 tgaccctcgt taatgtcaca ttaacgtctg tgttaagcac accttaacct ctgtgtttct gggtggagaa gctgtgacgg gtggggcaca cgggcgtgcc tttcggtacg tgagggttaa 5280 5340 atgggttctc gcagaaagta aagccatctg gtctgcctgt gccagtgcca gaactgaagt gccatgggcc aaatcacgct gctgttgtct ccctttcagt aacctgtctc tggctggatt 5400 5460 gtggattaac tgaaaggctt tgatattaca ttgttctgtc ttattgtgtt agggtctctt 5520 ttagcgaatg gtgttcacct tcttaatggg ggctaaaata gagtctttta ttaagcctaa ttacagtgtt ctaagtgact ggcccaagaa atggcagctg gtggtctgaa gctctgccct 5580 gtgcccctta gctaaagaga atattgtgtc ctccttttcc tcttcaaccc tactgagttg 5640 aggcaatctc ttttttttt tttttttt tgagacagag tctcattctg tcacctaggc 5700 5760 tggagtacag tggcccggtc tcggctcact gcaacctccg cctcccggct ttgagcgatt cccatgcctc ggcctcctga gtagcttgga ttacaggcat gcaccaccat gcccggctaa 5820 ttgttgtatt tttagtagag atggggtttt accgtgttgg ccaggctggt ctcgaactcc 5880 5940 tgaccttaag tggtctgcct gcctcagcct ccgaaagtgc tgggattaca ggcataagcc accgtgcctg gccaagttga ggcagtcttt aagtcctaag tgtatgtccc tggactgctg 6000 gtaccttatt tcctcaggga cagagcacct cggtcacagt gtggtcaggg ttgggcaagg 6060 6120 ccagcctgcc acactgtgcc ctcagctcat gggcctgggg tgttgctgtg tccaggcctc ttccacctga gctgttagat actgtccagg gaagtgccag agttgtgagt gctctggaag 6180 aaatgccaag tgaggagtgg cccaaggctt tgggcaggga gagggagtgt gaagaggcgc 6240 cgtgcaggtg ccccagccat ggagttctcc ctgtgtcctt aaggatggct cagaggtggg 6300 cttttgtaaa gaatgccttc tgacagcaga acagaggacc tgaattcaat tacagaaatc 6360 aacacttcta aaaatgcttc ttggctggga gtggtggctg gcatctgtaa tcctgcactt 6420 agggaggctg agccaagaga tcacttgagg ccaggagttt gagaccaacc tgggtgaaaa 6480 agcaaaaccc catctctaca aaaagccggt gtgggtagca tgcacctgtg gtcccaacta 6540 6600 ctccgaaggc tgaggcgaga ggaccccttg agcccaagag gtcgaggctg cagtgatcca 6660 tgattgtgcc actgcactcc agcctgggtg atggagtgag accctgtctc cagaaacata 6720 aaaaaaacca attaaaatgc ttgtatgttt gaggctgtat cctgctctgg agatgagtga ggtgttgatt ttggcctatg taattaagta aacagacatt cgcacaaatc acagggtaaa 6780 ggtgggggag acgccataaa gcgaaccaga gcgatgggac tcggtggaga ggccacatac 6840 aggccacgtg tgagtggccc ttgaagggta gctagggcag gtggaaatgg gagcctttca 6900 tgtgagggca ctatgttgtg agctctgtgg cctttttttg tttgccagcc acaggagttg 6960 gtgctgttat gcccacttca ctgatgaggg agttgaggtt cagagagatc atgggtccag 7020 ggttttacag cttgtgggag acttggacct aggtctttac ctctcaaaag tcccctttcc 7080 cccagtgctg taaatagtaa gcaaagacag gaaagcagga aggtattctg gcaatgtgga 7140 7200 ataggcagat ggggctgaag cgctggctgg aaagatgacc tggggccaga cgataaaggg ccttgagtgc cctggctttg ggcgttattg tgaaaccgtg ggcccaagga cactggggat 7260 gatggggaac agctgggtga cttcctgaca gtcatccagg cctgaaaagt ggagctctct 7320 tagtctttct gactttccca tctgtttaaa ataccaccta ctcttgcagc cctaccgatt 7380 7440 ttataaagaa acacaaagaa aatagagaaa taaaatacag ttgacccttg aacaacatag gggttaaggc accaaccccc agcacagtaa aaaattccgt gtatatcctt ctgatacaat 7500 7560 tctattaaaa aaatcttgta ttacttttga ctctctagaa actaaactac tgatagccta ctgttgacca aagccttgct gaacataaac agtcgattac cacgtatttt gtgtatgtat 7620 ttatgtatta tattcttaca atcaagtaag ctagagaaaa gaagatgtta ttaagaaaat 7680 aacaaggaag ggaaaatgta tttgccattc attaagtgaa gtaggttatc atcaaggtct 7740

```
7800
tcatcctctt catcctcaca ctgagtaggt tgaggaggag gaagaggagg ggttggtctt
                                                                    7860
gcagtctcag gggtgctaga ggcagaagaa aacccatgta taagtggatc catgcagttc
aaacattgtt caagggtcaa ccgcacaaag caataatcac tgtcttctgt ggttcaggtt
                                                                    7920
tacctcctaa gcatggctgt cgtcttctgt gtttgtgtgt gtacacacaa tgcacaggcg
                                                                    7980
                                                                    8040
tagctgtgcg tgtgagagca tggcatcaca gtaactacgt gtacctgctt tttccaccag
tgcttatatc accatgcccc taacttggtg atttttgatg gcggccacag ctgtgcgcag
                                                                    8100
tttcatccta tggctacttg gtagtttatt tcacctgtca catcttaaca attttggttt
                                                                    8160
                                                                    8220
ctttcccaca cagatcctga aattcctgtt caggtcactc aggatattga gcctcatttg
                                                                    8280
ggagccttgt tcacccaaat gttagaggtt gggacgadag aggacttgag gctggtgatg
                                                                    8340
cagtgtattc tccagggact ggatgtcagt aacatgtgga aagcagatgt gcaggtgggt
                                                                    8400
gccttctccc tccttgtgtg gcaggctcag aaaccacgtc ggctcaaatg ggaaaactga
tttgagatgt ggtgtcaccc ttaaaactaa acaagttcta actggtagag actctaggca
                                                                    8460
                                                                    8520
aagggggagg ctgtgagagg gagccctggc ctgtgggaca gcccaggctg cggcataggg
                                                                    8580
aggccttagt tttcaaacgg gaagtttttc aaataacaaa tgtgttgtct tattacgtta
                                                                    8640
aatactaagt gttacacatt cacaaaactg atccataaaa aagttaaatt ctgctcattc
                                                                    8700
tttgctgaag acctctcaca ccatacttct tgaaacatgt ggcctgattg ggccatactg
                                                                    8760
ccttcatgcc agcatttgag aagcacctag gttagcctac ccccttcagt tctgacagaa
                                                                    8820
gtcgctaata cagcctgcat ggtgttgcat ttgctgagtg cctttgcaca gagctcacat
                                                                    8880
gctgggattt gtttctctga atgcctgtgg gcactggact ggtcagacat ctcttacgca
                                                                    8940
aggaagaagg ccacaggcca cagagccaat ggttggtggg gcagagagtc cagccaaggt
ctctggtcta ggcatattct gcctcatgaa tggcttattg actcctggtc atatacagca
                                                                    9000
                                                                    9060
cactggtatt gggtactgat ttgggcagga gaggaaacaa acctaaattt ctgtttggac
cagttggtca ggagacttcc cggaggaagt gaaactccag ctgtgcactg aagaatgcag
                                                                    9120
gggacttgat tggggagcag aggtgagggg aagggaggcg tgcaccgtgc aggcagcgtg
                                                                    9180
                                                                    9240
ttgggctgcc aggagcaggg gatgtgcaag agtgagaaga tggacaggga gaagtggtgc
                                                                    9300
caggggggca ggccctggtg gggagatagc ctgtaggtgg gcaggagagt gggagtggag
                                                                    9360
atggggcttt ggggtgtgcc tagtcagagg gagcagggaa gggaagagag tgaaaggcag
aagccaggac tttggctagg gttgtggggt gggctgcaca gcattcgggg agaaagggac
                                                                    9420
ggtgtgaggc tgaaatagga actcactgac aatgtgaaat gcctggcact gggtctgttt
                                                                    9480
gttcatatag gcaccccgta aaggtagggc tctgcccaca tctcatggtt taaaacctta
                                                                    9540
tttttcaaag gggaagtttt tcaaattaca aatgtgtggt cttattatgt aaaatactaa
                                                                    9600
gtattacata ttcacaatac tgatatgtat aaaagttaaa ttctggccgg gtgcggtggc
                                                                    9660
tcatgcctgt aatcccagca ctttgggagg ccaaggtggg tggattatat gaggtcagga
                                                                    9720
gttcgaaacc acctggccaa catagtgaaa ccccgtccct gctaaaaata caaaaattag
                                                                    9780
ctgggcctgg tggtgggtgg ctgtaatccc agccacctgg gaggctgagg caggagaatc
                                                                    9840
gcttgagccc aggaggtgga ggttgcagtg agcagagatc atgccattgc actccaagcc
                                                                    9900
9960
                                                                   10020
gtgcttaaga cctctcccac catatatttt gaaacatgtg acccgattgg gtcatattgc
cctcatgtca gcatgtagca cccgtgacca cagcacctaa tccgattgtt ttcacatttt
                                                                   10080
cctccagccc ctcctatctg taagcgtgca tcgttgctca gtgaagtaac agccagtgtc
                                                                   10140
ctctgcgtgg acagagcctt gacaagacgg gctctctgta attaggtcac agtgtgtgac
                                                                   10200
ccttttgcaa ttcactgtcc tggccgattt acgtgcttga tttagtgaaa tgctgctgaa
                                                                   10260
agaccctgac tttgccccag ctctgctcat cttcttcact tccttcctgt ctgcatgctg
                                                                   10320
atgtgaaggg tgtccctccc aggacttaac cccaagcagg ccttgtccac ctcccctgac
                                                                   10380
accagggete teaatecaet ceaacgeeae ageeceagag ageagtette tteeceagge
                                                                   10440
ggagttctta agggagaaca cgctatctct gccgctaagt tttttctctc ttgccccagg
                                                                   10500
ctgttgtgtc agctgttaca ctgctgaggc tgctactgaa ctgcccactc agtggagaga
                                                                   10560
aagcaagtet gttgtggegt gegtgteece agatagteae agetttaaea gtgagtaeee
                                                                   10620
tctggagatg tgtcctctag ctcctcccct ccctcttcct gtaaagacag aagtcagcct
                                                                   10680
tttggggtct gctgccctgt agctttatgc agaacgtgtg tgtgggctac ttccaaaggg
                                                                   10740
                                                                   10800
cggtggtgag caggatgccg agcttgtgtg tcctgcctga gcacattggt atcaacggtt
ggagcagtgg aagggaagtg ctaacaaggg acatttagta gcactgggaa gcatcagaca
                                                                   10860
ggcagtaaga agagggatgt agtgataaag ggaggctatc gtggaggcct gcttaatttt
                                                                   10920
                                                                   10980
taaaatttta tgttttatta tttttttaga aatggagtct cactgtgtgg tccaggctaa
ggtgaagtgg ctatttgcag ttgcaaatgt agtgttctgc agcctcaaac tcctggcctc
                                                                   11040
aagtgatcct tctgccttag cctcccaagt caccaggatt ataggtgcat gccactgcag
                                                                   11100
ccagcttgta gatgcctatt taatcagatg ataaaagaag gaattctggg gctttctttg
                                                                   11160
tccccacaaa atgttgtggt tagtttaatg cactcattta tttgtaggag ttgtatgtgt
                                                                   11220
                                                                   11280
gtgtgtgttt aaggcctatg atacagtgag aataaaatgc tttacaggat gggatagtaa
tgttgcagat aggagtttat tttgttacag tcttactcaa atgttaaaat ttgtgtccag
                                                                   11340
ttgttgctag gctgtttgtt tcactagaac agtctggttc agattgggac tgcctcctgc
```

cctctaaaaa	ccctgacctg	ggtgttctta	cacttaggtg	cgaaggagca	gtatctattt	11460
	ctctgcccta					11520
	gggcaaaagg					11580
	gtcattttcc					11640
gagcatgtgt	ggtgagcatc	aggagaggca	cgtgacccat	gctgacgggc	agggacagtg	11700
ttgatgatgc	gtgtggtagg	ccctcactga	taagaacact	gggctagaat	ccacttacgt	11760
	ggtgtagcag					11820
tgtgagagac	aggacccaaa	aggcctcacc	agggctgctg	tgtatctgag	aaggagggtc	11880
acaggtgagc	tgtcccaggt	tacttaggta	agactttgag	ctgtccttcc	tcttgggtct	11940
gttctcttta	tattctagat	catgaattga	atatctttca	ctagagctga	tctgtaagaa	12000
gtttagcaaa	tagtatttaa	cggcccacgg	accacatcaa	ttcattttgg	agcacagaca	12060
tttctacctc	agtcactcag	agctgcagtg	tttgtgttat	ttccttgggg	aattactttc	12120
	tattttattt					12180
cctgtgtccc	tcacagtggt	cgggcctgtc	ttagatgtcc	tggctgcact	gctgcggcag	12240 12300
ggggaggagg	ccatcggcaa	ccccaccac	gtcagcctgg	cctcagcat	ccttctcact	12360
	accatctgaa					12420
gtgetettet	caatcctgca ctgcgagcag	graceaccer	adygryagaa	ggagggcgag	aguggcaggc	12420
agetttteet	taataataca	ggtacttgaa	tactagacaa	actttctatt	ctactaaatt	12540
tgilgeagga	gtggtttctc	aacaacgacc	atactaggeaa	ttcatactcq	atttataaac	12600
cagagecag	tcattggatc	taatactata	aatagtgttt	gtatactaca	ggttgaacac	12660
ttctaatcca	aaatgctcca	aagctcgaaa	cttttagagt	gctgacatca	tgctaccagt	12720
	actcctgacc					12780
tttcatgcaa	aaaattattt	aaaattattq	cataaagtta	ccttcagcta	tgtgtataaa	12840
ctatataaaq	tgaaacataa	atgaactttt	aaattatatt	tagatgggtc	ccatctccaa	12900
gatatctcat	tgtatatatg	caaatattcc	gaaatctgaa	atctgaaaca	cttctggtcc	12960
caaagcttta	ggataaggca	tacacaatct	atactattta	aggaagctca	ttaaaaatta	13020
ctctgttttt	gctcaccacg	tctttaaata	agccactcgc	atagatccct	tgctgggctt	13080
ataattcaaa	tggatatagg	gaatgaagca	tcctgagttc	cagttttata	gtatgctcct	13140
ttttaagtta	aactgaaact	agggataaat	gtcccacaga	aaaaattaca	gttcagttaa	13200
catttattga	acatttgatg	tgttccaccc	ctatagcaag	cctgtgaagg	aggcagtaat	13260
cccattttat	tgatgagtaa	actgaggctc	agtgccgcca	aataatttga	ccagtgtcac	13320
ttagctgagt	ctaaacctta	gactcaagac	ttgttatctt	tgaccagtgt	tcttttcatg	13380
gtgccaccac	tgtatgtgtg	gctgactatg	tatgtaggaa	ctcatagata	cgacggttaa	13440 13500
tgcatcgctt	aatgacagag	acttgttctg	agaaatgtgt	cgttaggcat	actoracec	13560
caaacaccat	agatcgtata	atactttcac	aaacccagat	ggtacayagt	attagaagata	13620
taggctatgg	ggtatagcct atcctgtaga	gregerierg	ggctagaaac	gtattatac	atttaaacac	13680
agacaatta	cattaaaaat	acastcttat	acaatggtaa	gaccactgtt	gtttatacag	13740
tatacettta	accagagtat	tattttataa	tacataacta	tatatcatat	attcatgcac	13800
	ttttaagtgt					13860
tttaagaaaa	atattctctg	gtaagctaaa	cactcatgac	attggttcta	actctaaagc	13920
cttcccctqt	taacaattgc	ctttgaccct	atttatcttg	tcagcatctt	tgttttaaaa	13980
tctctctgct	gatgttagat	ttgtatgtaa	ctgtacaata	taaatgcaat	gcacataaat	14040
tacaaactga	aattacaggt	gcaggatttc	atgaagttga	tgaaagtaat	actagaaagc	14100
agcttgattc	ttctgcaaaa	ccattagcaa	atgaccattt	agtggaatta	gatcatttaa	14160
cgaatggaga	aaattgacaa	ggataatgac	atggtattac	agtaaagaat	gatgtgaatt	14220
aatcatagct	cactctcatc	tgttggggtt	gtgtagggaa	tctgatggat	gatcacagca	14280
tcaacagtgt	gcatggtagg	cccacactga	tgtaaacacg	cagccagaat	cctcttaggt	14340
gcatctaaag	ggtatggtaa	gaagtcagca	cagccagcat	acccagcaga	atgatcagca	14400
gctagtgctg	ttccaagcac	tttacatggc	ttagcttgtt	caatcctcat	gacaacctat	14460
catcctcatt	ttgcagatga	ggaaactgag	gtgcacacat	acaaagaaaa	gctagatgat	14520 14580
ttgttcaaga	tcataaggag	ccagagtgtg	aacccagata	guccaaaag	garrigigig	14580
cttttcatca	gtatgatagc	aaaggattaa	gagagggtdd	tacasasact	gggtgaaacg	14700
ctggaatact	tataataa	tactatacaa	elyaalatgc	racarattat	cagtaatttg gccaaagaga	14760
acatgacgaa	cacttcactt	actetetet	cactctcaca	catastacsa	cactgtccag	14820
gagtggtga	cactigatet	tatatactat	atctccatca	tccaatataa	tcaccactgg	14880
caguagecag	cttgaccact	tgaaatgtgg	ccagtatgac	taggaactga	atatttaatt	14940
ttatttaatt	ctaattaatt	taaatataaa	tagtcacatg	tggctggtag	tgctctgctg	15000
gacagtgtgt	ggttgtgatt	cagacctaaa	gatgattgac	tataaaagag	gcatgttttg	15060
5	JJ J-J	-				

tcatcaaaat ctcattttct tttttttttg agatggagtc tcgctctgtc actcaggctg gagtgcagtg gtgcgatctt ggctcactgt aacctctgtc tcctgggttc aagcagtttt tgtgccttgg cctccccagt agctggaatt acaggcatcc ggcgccatgc ttggctaatt tttgtatttt tagtagaaac agggtttcac cctgttggcc aggctggtct ccaactcctg acctcagatg atccgcctgc ctcggcctcc caaagtgctg ggattatagg tgggagctgc tgcgcccggc tgaaatctca tttttcgaga tgaagttttc aagcagacct tttcaccact attaattgag aggttttggt ccctatttta agtgcatttg cttcaacata atctttttt ttttgtacca atgatacttg aatatattaa ttagtactgt tcctattatt gtttgtttct acccatttcc agaatggatt agcaccagct tagagtaaaa ggtacagact cagcaaattc caaaccagga ttgccccata gacctcctga agttacgcag tgtgggttct ctaccctaga 15660 tagttaaaac aagggtcaaa gagtctaata caagatgggt gagcagtgac agcagcatgt 15720 ccaggcgaaa ggatgtggct atccctgggc acacacaact ggtttgagtg tcccgataga 15780 ctaggctaag aaagaaataa gtatgagctc ctttaaagta gaaaaactta aataatcacg tatgtacttt tacattctgt tatctgtcat tacaggtaat gctgaaagcc atcccttctt tcttgaactc tttcaataga ttggtgtttt cagttatgcg ggaagggcgg cagaaggaca aaggtaattt ggagtaacat cagacacagt ttcaaatata ttcatcatga ggtgtggctg ctggccacat atgttactga aaataaaact actcacttgt gtttaaataa gagaaatgat atcaaatgaa tactcaaaat atatattttt taaaatttca aatggtcaca ttttatctta 16140 tccaaaacag tggatgaatc aggcatctcc ttattgaaat agttcctttt ctgggaaaaa 16200 16260 aaatatcaga tttaggaaat gtttactgag catgtatatc atgtaaaggg gatataaaaa 16320 tgacttacaa ccccattcct gcccttaagg agcttatagt tcaataggga gatgaaaagg aacaggcagg tatagagcaa tctcatttta taaaagggat aaggtcctgc cgctcactgt 16380 tccagcctca ccttggcaag ggtgtgtttg tttactaggg aaacactaac tgccatatgg 16440 16500 caataqcata tattatgtgt acaattcatt tttcagcttt gaagttgatt cttgttgaat 16560 ttctaatttg agggagactt ttattatttt aaaaattgct ggccgggcgc agtggctcat ggctgtaatc ccagcaattt gagaggctga ggtgggtgga ttacctgagg tcaggagttg 16620 aagcccagcc tggccaacat ggtgaaaccc tgtctctact aaaaatacaa aaattagctg 16680 ggcgtgatgg tggactcctg taatccgagc tacttgggag gctgaggcag gagaactgct 16740 16800 tgagcccggg aggcggaggt tgcaatgagc tgagatcgcg ccattgcact ccagcctggg 16860 16920 tttcgatttt attttgcagt attttgaaat tgcatagcat gtaccagccc tgtactgtct 16980 ggggtgtcag agaagagcct gtgaccgtag ttgtgggccg actggaaata caggagtggt 17040 gctcagcttc tctcccacca ttgtggttca gttttgtaga cctaagcaat aggcttttaa 17100 ccagacatct tttgagaaaa ggaaaagggc attgttaaga ctaggcttca attcctctgc 17160 ccggttttgg gatcaatcag tggcacagtt agatatttcg cttcttcctg tatctggtgc 17220 17280 agagcacgtc agcttcatat tgtgaatcga tttaggagca gcattagtaa acaagtttcc cctcccatgc cagcctcagc aagttggtgg tggctgccta cagttctgtg tcaaagcctc 17340 tcccatcatg tctgagctca gcaaggagga atctctgttc ttgtagtcat gtctgcctgg 17400 17460 acggaaggcc ggggccttgc tcagcagtgg tggagcacag cctggtcaca ctgccacagg 17520 catgtccttt gtcatgtatt tgaggaagca caggagcaca tcacacttct gggactctgt gctgtgttca tgtgaaggta gcttcgtcat catatctgct aagacctggt tctcagacac 17580 attcatggct taactgagta gagttttaac tattttatta tctcttttat tggtatctaa 17640 tatgctcttt ctaatgagca tgcattaaat tggcggccga aataacaagt gctatgtatt 17700 catgttgtaa atagcatgta tatggtgaac agtctgaaaa gagaagaaac agtcaatgtt 17760 agatattaaa gcatatcact aaagtatatt gtctgttgaa atgctacatg aatgttaaca 17820 gttgacatca tttcatacaa ttacattgat ctagaaaaat tacatctata aaagatgtct 17880 gtatgcttat tcacggtctt caaaaaagat atgccttcta aaaatcaaat ttattgagtt 17940 atatacaatg tatgcataac aaattgcttc tgtttaaagt ataaaattta atgggtttta 18000 tgtatatatg aagccgtccc cacaatcaaa atatagaata ttttccatca tccttaaaag 18060 attcctcttg tttctttgca gttttttctc cactctggtc ccagccccag tcacccatct 18120 gctttttgtc cttatggatt tgtttgtgtt ttctggagtt ttataaaaat gtgcctacca 18180 ttgtgctgaa tgacagcagg gaaggtgctc tggtgtgtgc tagaacttcc ccatgagctg 18240 taactcaagc tgtggggaca ctcatgcaat taggattctt gggaggagtt tgttaagagg 18300 ccctggacgg tcctgacacc atatggtagg aaaagaacta ggaatcagaa gtaaatctaa 18360 gaagacagta gaatgtctgc taatgataat tgagtcctat gtctgtccac ctataaaagg 18420 cacatacaca aacaatttct gaaatgtaag gaggcaaaga cataatttag ggtatctcat 18480 18540 tttttaaatc atatgatgtc ggtagatgat tttctccact taagataatt ttcaatttgt 18600 tttccatttg cctttattat agaactccat cttggtgttt ttttttttt tttttttt taagtaatcc tagatttcat cctaaaaatc ttgattactt ttctggttag actcttaaaa 18660 acacccgagc actcttgagt tttttaaagt gtccttccct ttgttgtgta gataactgtt

18780 tggacatatc tgttctccct tattctgtct gcaaaataag ccaattaaag agtctgggaa 18840 aacatgtaac acttgagata attttcaccc atattaaaag tctaacatag aagagttaaa atqtqctqtt tttgaactaa ttggttggga aacactttgt tgtctgtagg aagcatagat 18900 18960 gacctgccta cggtcctaaa gtgtgcacgc ctggttgaaa gaatgtacag ccacatcgcc gcacgagctg aggagtttgc tgtgttttcc ccatttatgg tggcccagta cgtgttggag 19020 gtacagaagg taaaattggg ttcaatgtct ttcaccaagt actgtgttta tggtccttaa 19080 19140 gcagggtttc tcaaccaaaa tggcaagcgg tgttctggat ctgacagttc tctgttgctg 19200 tgtgcaagtt ttagacaggg ttttgctctc tcactcaggc tggagtgcat tagtgcgatg atagcacact acagcctcga actcctgggc tcaaatgttc ctcccgcctc agcctcccaa 19260 gtagctagga ctacaggcat gtactactcc actcagctaa tttttaaatt tttgtagaga 19380 tggggtctcc ctatgttgtg caggctggtc tcaaactcct ggcctcaggc cttcctttct cttcagcctt cccattctct ggagtcctgt ctagttcaag gtgtttagca gcattcctac aggqttattg taaggaccaa atgaaatgac atacagaggg ctcagtggtg ccttgtacac agaaaatgct cgattatctg tcttgctcta gcacaaactt cggggtctat ttggttagtt tcttgagtta tataaaagga gaggaaatgt tactcaggtc caagaacagg agctctcata ggaccaggct taatggagac tagaaagagg agttctagac ctcaggattc tgggatcccc 19680 tcagctgcaa gagttcatgt atctttactc tggcggtgtg tcactcatgt gactcagctg 19740 19800 ctctcagaca ctcaaagtcg atgacaaggt ggagatacag gtagttgtta aaatagacag 19860 attaagaaaa aacatgtttg tccaaattaa tctgactttt tgattcagtg ttctggataa 19920 ttcactattc aacagttatc ttttttcttt ttgagatgga gttttgctct ttctcccagg 19980 ctggagtgaa gtggtgtgat ctcagctcac tgcaacctct gccccgtggg ttcaagtgat 20040 tettetgeet cagececetg agtagetagg attataggtg cecaceacea egeceagtta 20100 atttttqtat ttttagtaga gacagggtct tgccatgttg gccaggctgg tctcaaactc 20160 ctgacctcag gtaatccacc cgccttggcc tcccaaagtg ccaggattac aggtgtgagc 20220 caccgcgccc agccattcaa cagttatctt actttggaat gtcattatgc tattttcaaa 20280 attccacaqq atcctgtgtg acccatagta agttcactac agaactttgt aaatctatgc 20340 tgtataaatc ttggtttaaa ttgactgtca taggcttgag caaagtgcgg tgtattcttt tgactgtctt cttctgtatg tatagatata catttatatt gtgttcaatc tctctgtaaa 20400 atacccattt cccctttgta aatcttgtaa gaacaatagt aaaatcacaa gtaagcttgt 20460 20520 tagggtagag gtgtcagcat ttgtccaggg aggctgggtt gaatgggctt ccttagaaaa 20580 cctggagctg catcactttt catccctgct cctgttttag atacatctag aactactaaa 20640 taatttctac cccgctggcc ttgctcacct cggcaggtgg cgatgcctgt cctgtgggtg 20700 gggacatggg ggcagcctgg ccatgtgagt gcacacacct taccgggtgt ggagcccaca cctggtaagt gttgtggatc ttgagaacac cccttcacgt tgtcctttga ccaagatgtg 20760 ggcttgtagt ttggtttcat tgcagttatt tggccttttt atggaatctt agtatttccc 20820 aagcacacca gtcgttaaca tgtaagcttt tgatgaaaga aaagctggcg ttattttctg 20880 tcttactgaa taataaaatg agacatagta atatcacttc actaagagcc aagaagagaa 20940 gcagtaattt gaacccttca gtcactaatt attattctga aatttacttt atgaaaagcc 21000 21060 taatcttgaa agccaaaggc tttgggaatt agctagggcc atagcctccc agaatccact 21120 ggcaccacag tccatgttct atctttcatt ttgtttttaa attcagcaat gaagaaaata 21180 ttccatatgc attagcagct tctactgaga gagccataaa tctttctaga ccagcgtgtt 21240 taagtttaat taaataccag atctaatgct aaatagatct cctttgcatt ttccttgtac 21300 ttctgcagag ttgagtattg ctggtgggac ctgtcagtag tcagggaaga cgacctggtg 21360 agatgtgtca gtcaggagaa ggggcagctc cagaggcccg cttgtcttct ttcctccaag 21420 cagtaatgag tccccatgga aacatgcagg gaaattatgg ttactttcat ctccttttt 21480 acctgtagag caaatttaca atgtccctct acagatgctc ctggacttag gagggggctg 21540 tgtcccaata aagccatagt atattcaaaa tatcattagt tgaaatgcat tcagtacttg 21600 ataaacccat cgtaaaagtg aaaaaatcgt aagttgaacc attgttaagt ccagatgctc 21660 cttgacttaa tgatgcagtt atatctggat aaatctgttg ttaattcaaa aaatgtcaag 21720 ttgaaaagtg ttaagttgaa ccgtcttaag tcaggaacca tctgtatggt gatagcttag aataagtagt ttgtgctgct catcttatct aaggttttaa aagctactta gtgatgtttt 21840 catttgttgg ccagtgatct tagtgttgta gaaattgact cttttcttgt tttataaata 21900 21960 agttatctga aacctaaaga tttaaagtgg ttgtgttgtc taaaacctac tggccttctt 22020 actacccca gagetetttg caagaggetg tetagetgea ttttcactae tgagaaactg 22080 tgtaagtagt tcagagcatg ggctctgggc tcagactgcc taggttcaag tcttagcgct gccagttatt agctgtgtga ctttggggag gtcactgaac ctcattttt gcctttggaa 22140 22200 22260 cacttacaaa gccctcaccc tgccagtatg atcaaggact ttgtgttttt gtctgttttt 22320 cgttttgttt tgttttttc tttccctccc aattaccttg ctgtaaaatt cacagacacg ccattctacc ttcggtcctt gagtgttgct atcatctata aaatggtaaa atttaagatg

```
atcacttgtc agaaatttct gaactattac atgaaaagga tcataacttt gaagagtagc 22440
atcgtctgag agacagaaac aaattgcctc tttaggaatg tacttcccag tggttgcctt
cgtgaatcag ttcttctggt taataaaata tgtcctcatt agaaactgtg tttgcagaga 22560
cacattaacc ctttcaggtt atcagggtag caataaatga tcagccaaat tccaggcctg
tctgctgatg ctctaccact gctttggttt ttttctactt cttaaaagta atggcaaaat
                                                                   22740
acatctagta taaggtgaat tttaccagct taactgtttt atgtgtgcac ttcagtagta
gtatatacat tcttatattg tgcagccatc accaccatct gttcccagaa ctgttcatta
                                                                   22800
ctactgcttt ttagtttcag ttactagggt ttcaaactct gttcagccca catttagttg
                                                                   22860
aaacctgaat ggatgtggta agtgtgaaga gaacctgttc ccccagcctt ttaggttggt
                                                                   22920
ttgatattag tctgagtctc ttctctggaa gtttgggtgg agcatcagat acagccaggt
                                                                   22980
tggagctggc tgccacccac actcctgtgc tccagatttt aggtaaccct gaacttcagg
ggagaagtgc atctttaggg atgaggacca gttcaaccat tccagggctg ttaggaatta
agtgcatatt gtgctgttct tgacataaat aaaaaaggaa tctattaaat ggcaatcatg
aaatcacttc tgctcttggg tgatatgatg tgatctaatt actagtgtag gcttatcagt
ggtctgtttt ggtagtttca gagcctgcct gctgccttgc tctggggtga gatgggggtc
atagtgttat ggtgaacgta gttgtcattg tcccacaggg ttggcatagc ttccaaggtg
attgacggtg tagaagaatt tgacacaatg ggcaggcagc ttatcttctt ataaggtttt
taaatttaaa gactccagtt ttttaaaaatg cccctggtaa acatgtaagc atcatttact
gaacagcaaa gccagccttt tgctttcatg gagttttatt ccaggtttgt gtttgcttga
gttagcttct atttccccaa aatacaaact ttaaaaatat gagtatttaa aggtttgact
tagtaataaa attatattt aaaagtgaat gtcgattttt ttctcaattt ggaggtcagt
                                                                   23700
ttgaaattac ttgttagtgc ttcccaaggc attgttggca ggtggtgcgg cttgatctct
gccccaatt gttctcacag aggtttgcct ttttcctcag gtgaccttat atccagctgt
                                                                   23760
                                                                   23820
gaaaagtctg ctgcaggagg gcatttacct catcctggac ctctgcatcg agcctgacgt
ccagttcctg cgggcctcgc tgcagccggg aatgagagac atctttaagg agctctataa
                                                                   23880
                                                                   23940
tgactatctc aagtaccaca aggccaaaca tgaaggagag aaaagatata cggcctaagg
                                                                   24000
ctatgggaca gaagtgccgc cagtgacact gtccagaggc tttggctgca tggtctgaaa
gagctggaga atgaaagact taagatgttc taattcgtag tattggtata catagaaaat
                                                                    24060
cctttggggt ttatgtagta tattttgatg tattttacat cgtgtttttc ttactatttt
                                                                    24120
ttaatacata gttttatgca gtaagtattg caatagaatc ctgaaaattg accctgggat
                                                                    24180
gagattaatt caatagaaaa attgctgact cttgggacct ttctgtgttt ggttctcgtc
                                                                    24240
ttggctcagt ggtttggtgt tccctcgtct gcactggaaa ctacataaaa cttggctttt
                                                                    24300
tactttgggt acatgggcgt ataattcagc cctgtttaaa tatacttgcc tttcaaattc
                                                                    24360
ttcaagtaac atgggaagta ttcttgaaat gtcacatttt ctgccttccc tctaagtatg
                                                                    24420
ctttctgaag aagtcaggga aagttagagt ctgtggcctg aggtgtctgc tctgggtggc
gatagtgggc acctcaggca ggtcggtgac gtttagcaca ggtgccaggg ctcctgcctg
                                                                    24540
ctcctcctgt gttagctctg tgaagttcat ttaggaattt ttttttccta tgcagtttaa
                                                                    24600
gaaataatcc taattgtttt ttcttattac ctaagcaata tatttttatt atagcaacct
                                                                    24660
cagaaaagaa aaataaaagg ataatttaaa aaactcattc atagtctcag ttacccagat
                                                                    24720
aacctcggtt gtcaccttgg agtatcttgt tgtagtccct ttactatgtg tatgtatata
                                                                    24780
gatgtgcata taaatatata tagtagctaa attggatcat aaatgcattt ttttaaagtt
                                                                    24840
acctttttc ctgtgtaata ttttaagtaa ctctgggtca gtgaaaacat tcgacatata
                                                                    24900
ttttttttgg ctgcatagta gtccattgag tagatattgt tgttttattt aataagtaca
                                                                    24960
ccatggttag acataggtat ctgtccaaat tcccttttat agatggtgct tgcagctgaa
                                                                    25020
ttattttcag aagatgaatt ctcatgagtt gtattatttg tcagaaaacc acatcatttt
taaaggattt atataaatat tgccaaattg ccccctagaa tattactaat ttattttcct
                                                                    25140
actagtgagt caactttaat attattgatt tttgtttctt tatgcttcct tgataggaga
                                                                    25200
gagatgttat tctgttttga atttctttaa ttactaagag attatacatt tttcacattt
                                                                    25260
accattttta tttcttatgt aaattatgtt tatataatta tctttcttct gtaatagcac
                                                                    25320
atttctcaat tgggatattt accatttttc ttattcactg tctttggggg aatcatgttg
                                                                    25380
gaattccctt tttaattagt tcaaaatgca gacttttgaa gttatttgaa ggatcatcct
                                                                    25440
taagcaaagg ctttttttt ttaacactgt attttcaagc agatgtgatt ggagcagaca
                                                                    25500
atataaaatg aatgtctttg atacctaaga gaaatggccc ttgttttacg
                                                                    25550
```

```
<210> 12844
```

<211> 1459

<212> DNA

<213> Homo sapiens

<400> 12844

<211> 2719 <212> DNA

<213> Homo sapiens

```
60
gtgaggtttc accatgttgg ccaggatggt ttgatctcct gaccttgtga tccacctcc
                                                                      120
teggeetect aaagtgetgg gattaeagge gtgageeact gegeetagee tettgtgget
ctaatttatt atgtagtact ctgtggtctg tatattaatg tcttgccttt atctttata
                                                                      180
                                                                      240
ttatatggta aaaccctgat ttttgtattt tgaattttct tgtttaattg tacacatttt
tgtactggta tatcaatagc taatggcctc tccccagacc aatgaaattg gcatcttttt
                                                                      300
agggggagag ggttagattg ggtctcaggc tctggaattt tttaaaaaagc tcaccagata
                                                                      360
gtgctggtgt ccagctagaa ttttcttttt ggattccaca ctaaaagctt aggccataaa
                                                                      420
agcaaaaata aataaatgga atgacgtcaa actgaaaagc ttcttcaaaa caaaggaaac
                                                                      480
aatcaacaaa atgtaacaac ctatggtctg ggaaaacata tttgcaaacc atttatctga
                                                                      540
taagggatta atatctaaaa ttcatgaaga actcatataa ttcaataata gaaaaataat
                                                                      600
ctgattagaa aatgggcaaa agacttgaac agatgttttt tcaaagaaga cataaggatg
                                                                      660
                                                                      720
gctgacaggt atatgaaaag gtactcaaca gcattagcca tgcagaaatg cagatcaaaa
                                                                      780
ccactgtggg cgtcacctca caccccttag ggtggctgtc ataaaaaagt gaagtgataa
                                                                      840
caaatgttgg cgagggtgtg gagaaaatgg accccttgta cactgttggt gggagtgtgg
                                                                      900
attggtacag ccatgatgga aaatagtatg gaggttgcta aagaaatgaa aaatagaagt
                                                                      960
actatatgac ccagcaattc cttatcgggc atatacctaa aggaagtgag atcaccttat
aaagatatet geacteecat gtteattgea gtgttattta cattageeaa getgtggaaa
                                                                     1020
                                                                     1080
caacctgaat gtccactgat agatgaatgg ataaagaaca tgtgatatgc atatataatg
                                                                     1140
gaatattatt cagccttaaa atgcagatac tgccatttgc cacaacatgg atgacctgga
ggcagtatgc tgagtgaaat aagccagaca caggaagaca aatattgcat gatctcatat
                                                                     1200
gtggaatctt aaaaaaaata aaaaaaaaga gtcaaatata cagagtgaat aaaagagtgg
                                                                     1260
gttaccagga gcaagtgggt ggggaatggg aaatgtaggt gaggggtaag aaaatagcaa
                                                                     1320
gtatgtagga tgaaagagcc tagagatcta atgtgtaaca tgtagctaat aagaggactg
                                                                     1380
tagctaataa aattgtacta tatttggaat tcctgctaaa tgaatagatt tttagctgtc
                                                                     1440
                                                                     1459
cttgccacaa aaacaaacc
<210> 12845
<211> 1239
<212> DNA
<213> Homo sapiens
<400> 12845
                                                                       60
gggggagtaa ttcttagtcc catgttagaa agggggacgt gggacagaac aactgttcac
acgtgaaatc tagtgattgg ccaggctccg tgctaggtct tacattatca tttaattcca
                                                                      120
gtactgtcct gagaactaag cattaggaga agcagcatgg ggctcaacag tgaagtgact
                                                                      180
tgttccaggc gggtcctcag gagtggctgt gcagccccag tcacttttca tcacaccgga
                                                                      240
gagggacgca caaccccagt cctgtttagt tgcagatata ccgagaaggg agagcccaca
                                                                      300
ccgaccttaa gggcacttgg gccctgaatc ctatgcctct cgttccactg cttctcagtt
                                                                      360
gccctcctac ctggctggcc aggtttggag tctctctccc ctgctctggc attccagtct
                                                                      420
tggcctgaag cacgctatgc ctctcataca gtctgccttt tctagggtcc aagcagcatc
                                                                      480
ccaagttctg ttgagatgca gcttgcagtc caggaggaca acggtcaccc ccatcttccc
                                                                      540
atgtttttct tgctttaagc cctcccctaa gctttcacat ataatcacca ggggttcaga
                                                                      600
aattgtcagc cagttctcct tatgctttaa gtagattttc ttggggccag atgtcttgaa
                                                                      660
aaacgctctc ctgactcagc agttcctgga atttttggcc tatcatttat ctcactgttc
                                                                      720
tgagtttact tgtaagcctc ttcgcttaat gtttgaatca agatgagcag taataacagc
                                                                      780
ttcttgtgta ccaattactc agaactcact taaattgcct taacactttt taaatgttct
                                                                      840
tacacatttg aaattettta gggagggatt tecagaaett teetaaattt etecaceeat
                                                                      900
ggcatgacag tacttagagg ggcaagaagt tcaattttag aataagctct tctgggcgcg
                                                                      960
atggctcatg cctgtaatcc tagcactctg ggaggccaag gcgggtagaa tgcttgagcc
                                                                     1020
caggagtttg agactagcct gcaatatgcg aaaccctgtc tccacaaaaa gccagacata
                                                                     1080
gtggtgcatg cctgcagtcc cagctacttg ggggcgctga gttgtgagga tcacctgagc
                                                                     1140
                                                                     1200
ccaggaggca gaggctatag tgagccatga tcgtgccact gcactccagc ctgggtgaca
                                                                     1239
gagtgagacg ctgtcgtctc aaaaaaaaaa aaaaaaaaa
<210> 12846
```

```
<400> 12846
ctgcccctgt gggccgcacc tccaggacct gttcaccggc caccggttct cccggcctgt
                                                                       60
gcgccagggc tccgtggacc tgagagcgac tgctcacaga ccgtgtcccc agacaccctg
                                                                      120
tgctctagtc tgtgcagcct ggaggatggg ttgttgggct ccccggcccg gctggcctcc
                                                                      180
                                                                      240
cagctgctgg gcgatgagct gcttctcgcc aaactgcccc ccagccggga aagtgccttc
                                                                      300
cgcagcctgg gcccactgga ggcccaggac tcactctaca actcgcccct cacagagtcc
tgcctttccc ccgcggagga ggagccagcc ccctgcaagg actgccagcc actctgccca
                                                                      360
ccactaacgg gcagctggga acggcagcgg caagcctctg acctggcctc ttctggggtg
                                                                      420
gtgtccttag atgaggatga ggcagagcca gaggaacagt gacccacatc atgcctggca
                                                                      480
gtggcatgca tcccccggct gctgtcaggg gcagagcctc tgtgcccaag tgtgggctca
                                                                      540
aggeteceag cagageteca cageetagag ggeteetggg agegeteget teteegttgt
                                                                      600
gttttttgca tgaaagtttt tggagaggag gcaggggctg ggctgggggc gcatgtcctg
                                                                      660
cccctatttc ccggggcttg ccgggggttg cccggggctt ttggggcatg gctacagctg
                                                                      720
tggcagacag tgatgttcat gttcttaaaa tgccacacac atatttcctc ctcggataat
                                                                      780
gtgaaccatt taagggggtt gttactgggc tgtgtgaggg tggggtggga ggggcccagc
                                                                      840
aacccccac cctcccatg cctctctctt ctctgctttt cttctcactt ccgagtccat
                                                                      900
gtgcagtgct tgatagaatc accccacct ggaggggctg gctcctgccc tcccggagcc
                                                                      960
tatgggttga gccgtccctc aagggcccct gcccagctgg gctcgtgctg tgcttcattc
                                                                     1020
acctetecat egtetetaaa tetteetett titteetaaa gacagaaggi tittiggietg
                                                                     1080
ttttttcagt cggatcttct cttctctggg aggctttgga atgatgaaag catgtaccct
                                                                     1140
ccaccetttt cctggcccc taatggggcc tgggcccttt cccaacccct cctaggatgt
                                                                     1200
gcgggcagtg tgctggcgcc tcacagccag ccgggctgcc cattcacgca gagctctctg
                                                                     1260
agcgggaggt ggaagaaagg atggctctgg ttgccacaga gctgggactt catgttcttc
                                                                     1320
                                                                     1380
tagagagggc cacaagaggg ccacaggggt ggccgggagt tgtcagctga tgcctgctga
gaggcaggaa ttgtgccagt gagtgacagt catgagggag tgtctcttct tggggaggaa
                                                                     1440
                                                                     1500
agaaggtaga gcctttctgt ctgaatgaaa ggccaaggct acagtacagg gccccacccc
                                                                     1560
agccagggtg ttaatgccca cgtagtggag gcctctggca gatcctgcat tccaaggtca
ctggactgta cgtttttatg gttgtgggaa gggtgggtgg ctttagaatt aagggccttg
                                                                     1620
taggetttgg caggtaagag ggeccaaggt aagaacgaga gecaacggge acaagcatte
                                                                     1680
tatatataag tggctcatta ggtgtttatt ttgttctatt taagaatttg ttttattaaa
                                                                     1740
ttaatataaa aatctttgta aatctctata tacatctggt cattggaggt tccagttata
                                                                     1800
aacccatctt agttccaccc ctttcccctc aaagggggag caggggtcaa gtgaccccaa
                                                                     1860
cccatcctgc cagggcaggg cctatcttcc tgcctctgga agacttgttg caggtgggta
                                                                     1920
gtgggtcaga ttccaggtag gatgaactgg gagaagctgg caccccaggt ctggaggggg
                                                                     1980
ctggggtgca gcctccagct gtagctgcct cctgccttcc gaaggcagaa ggaatgaaag
                                                                     2040
atgcacattc tgggctgacg ggcatggcta gcaccatcct aggccaccca cgaggggctc
                                                                     2100
attggcattt gtcgtcgctg tcggaagggc tgccctcccg ggggaggcca tgacgggagt
                                                                     2160
ggggcccca gagtgcatgc acctcagtgg tctccgtgtc actgctgctg gtggcactgt
                                                                     2220
ctcggaaget ggcgagggc ggccggactt tcacaccctg tgctgtgaca gagccctcga
                                                                     2280
                                                                     2340
tggccttccg gagctggaaa ggtgagaggg acagatgtct ggacccagat gtcagactcc
tccccgcctt cctccccagg tgagctggac ataagcctcc atgacttttt ggaagtggag
                                                                     2400
                                                                     2460
cagctttgga ggccaccatc acctcacctc ctttagagta acgattccaa tgagtctgcc
                                                                     2520
aatactggtg acataagcat ggtccactcc cagcagtgag aagatagtgt gagtctgcag
                                                                     2580
tgtggggaga aaagcgattg gacttgatgg acgaggggca gctctaaatg acaggccaca
                                                                     2640
ggggcccagg acaaggttgg tgtggaatag gagggtgcc ccagattggg agggaaggag
acaggactgc tggagggaaa ataataacaa tcgtaataat aatgagaatg tttctgtgtc
                                                                     2700
caggcctcag gaacttgat
                                                                     2719
<210> 12847
<211> 224
<212> DNA
<213> Homo sapiens
<400> 12847
                                                                       60
agatcgagac catcctggct aacatgggaa accccgtctc tactaaaaat acaaaaaatt
                                                                      120
agccgggcgt ggtggcgggc cgcctgtagt cctagctact ccagaggctg aggcaggaga
                                                                      180
atggtgtgaa cccaggaggc ggagcttgca gtgagccgag gtcgcgccac tgcactccag
```

224

<210> 12848

```
<211> 4127
<212> DNA
<213> Homo sapiens
<400> 12848
cagagegace tgegggttgg getgagtetg teettgagga agatgeateg gagettgage
                                                                    60
ctgccttctc caggtaacct tctccagttc tcttctgttt tcaatccagc ccttgcctag
                                                                    120
                                                                    180
gtgtaagaga gagattccca ttggttgtcc tgaggttgac ttgggggagc actttttgat
aagetetttt teeectaata tetgetaaac ttatagaggg ttatgtaggt atgeagaage
                                                                    240
cagaggtgac ccacccatgt tactgcaggt gaaaaggcta tgtactcttt cctcagaggg
                                                                    300
                                                                    360
taaagcctca cagaagaggc ctgggcccca gacaggggta cattggggat actttaccag
                                                                    420
gtaacaagca gatagtgggg gattaggagt gttagggagt ctcagtacaa atgtgtgttt
                                                                    480
ctaggctaat tttagctaag actgccagcc ccttcttagc atggggagga attggctgag
                                                                    540
attgagtcat ctgagatcat ccttttaaaa aatcttcata aaacccatag aaaaagtgat
                                                                    600
ctagggaaaa tttagtaatt tttgttaact aatgtttccc ccttcatccc tgtaggactg
                                                                    660
taggtaccat ccagcactgc ctccacctga cgtcagtata tacccacttc ctgccccagc
gtggccgccc agaggtcact acaatgccat tgggtcttgg aatgacagta gattacatct
                                                                   720
                                                                    780
tcttctcagc tgagtcctgt gagaatggga acagaactgg taagcctgat ggatcctggg
                                                                   840
ttcctccacc cccaggtccc tgggaacagc taatggtagg tcaggcattt ggtagcatgt
                                                                   900
cttcagctgc tgggatttaa ccagcaaagg agcagatttc atacctccct tgcactggtc
                                                                   960
atcettatea tteteceeat aggecaettg cetgeettgt etettttae cettgeagea
ttaaagagag gagggtagga cagtcactcc caatccccat tttagaggta aaaatagaga
                                                                   1020
                                                                   1080
tctaggaatt ggttgagttt gtttaatgac agccactgaa tgagggactt ggttaggtaa
gagaccttat tttctgtctc ctctccccat accagtgggc acagtatagc aatctcccag
                                                                   1140
                                                                   1200
ccccatgcct gtattgtgta aagaatgttt ctttttggcc aggcatgtgt attactgtta
                                                                   1260
tggccaggca cgtgtattac tggttcacac cggtaatccc agcactctgg gaggccgagg
                                                                   1320
tgggtagatc acttgaggtt aggagtgaga ccagcctggc cacatgatga aaccccgtct
                                                                   1380
ctactaaaaa tacaaaaaat tagccgggtg tggtgacggt gtctgtaatc ccagctgctt
gggaggctga ggcaggagaa tcgcttgaac tcgggaggca gaggttacag tgagccgaga
                                                                   1440
                                                                   1500
1560
aaaaaaaatt agccaggcat ggtggcgggt acctataatc ccagctactc aggaggctga
                                                                   1620
ggcaggagaa tcgcttgaac ccgggggtca gaggttgcag tgagctgaga ttgcgccact
1680
                                                                   1740
ttttatatag aaaagctgga tctctagctt ctcttggaaa atcaaaagat cttataatgg
tgggctctcc agcttgcccc agttccccgg aactcacctg tctttattcg ttgatgatat
                                                                   1800
                                                                   1860
tatggagtat ctctgagaaa atggggcctc ctcagccaga tgctgcaaga ggaggtgagg
                                                                   1920
ggcagtgggc agccaagggg atgcagcctg cagaaggcgt tcccaaagga ctctgccact
gcctgcccat gcagtgtggc tgcggctgct tttacccatt ggcttctgct ttgtgcccca
                                                                   1980
gatcacaggc tgtatcgaga tggaactctc aagctcctgg gtcgtctctc ccttctctct
                                                                   2040
gaagagatac tetgggetge caatggetta eccaaceeet tetgetette agaceaeete
                                                                   2100
tgcctgctag ccagcttcgg gatggaagtc accgccccat gacagggctc ccaggggaag
                                                                   2160
agagettete ttecagaaga geteaetgga teagagaetg tggaaaaate eeatgeatet
                                                                   2220
agaaacttag atccaagaaa cttacatccc ctcccttccc cctcctcgtt ccctttttcc
                                                                   2280
                                                                   2340
cacggttaga ctttctccag gcctggctgc gttctctgcc tgtggtcctt gccccacccc
                                                                   2400
agcetettee taateetgtg ceacacacte agtggeeetg ggagaggeag aagggggget
ccccttcct tccatgtatc cagcgctccc ccttgatttt taattaccag ggttatggga
                                                                   2460
                                                                   2520
gttcttgatt tcattggtta tttgctttca ggccgtttct tgatgtacct tctgacctga
ccttttccct gccttcagga cttctgggcc cagccctctt gccaggcatg catatgtgag
                                                                   2580
                                                                   2640
atatgcatat catgtatgtg tcctcttggg gtgagacttc tgcacagcca tgcctgcctc
                                                                   2700
tgaccagtcc acttttcatg ttggggctgt aggcctgggg caggttcaga gtctacccaa
gtacctatgt atgagcaggc agcagcaggg catggcccca tctctccttt tagcctctgt
                                                                   2760
gtttcattag gcattcatcc tgccaaccag ggcaggcccg gcgtctgggc tctgggaaca
                                                                   2820
                                                                   2880
aatggggccc acatcctgga gtggcaaatt ttgggggatg cgctacctgt cccagctggc
                                                                   2940
cctgtgcctc caacccagag ctccccacag acctggtgta atttcacaag ggccatccct
                                                                   3000
ttccccaggc ttccctgagg gaggcggaag tttgaaccct tatgtggggt tcattgggct
                                                                   3060
agggtagtgg tatgaggttt aaaactattt aaggattagg aggagaaaga gtcttcagga
aactettgtt teactggaet etgeageetg cagaactggg geaagggtag gagttecagt
                                                                   3120
                                                                   3180
aggggaagga gcaggtagac tcttcagctg cctcagctgg gactgaagac ctaagctgat
                                                                   3240
tetettteet etecaeteet aagaageaat tttetgttee teteetteea eeaettttta
ctttctgcta tctcccatct cccgcttccc ttccatttcc tttctagaaa accctggtat
                                                                   3300
```

```
3360
ttagctcagg ccaaactgcc tcagcagaaa ggtggccttg gacaaaactg gtccaagaat
                                                                     3420
ttgaagtggc agtacttgcg gattggctct gtccagcaag gcctcagctg cttgttgcgt
ctgctttccc tcccctaaca gaagggtacc ctggcttatt caggggactc cttagtccac
                                                                     3480
actqtqtcac ctgcatgcct taatctttca ttgctggggt gtggccttgg gagatcctgg
                                                                     3540
                                                                     3600
qccaqccct ccacacatct ccctaagtca gagtggctgc tggccctggt agatttgact
tgctcttgcc tcactcgacc tccaaagtgg gactgaagac agtggtcaag agacttgagt
                                                                     3660
tcgggacagt aagccagggg ttaaggttct ttcctttttt tgaaagccaa agacccagtt
                                                                     3720
                                                                     3780
tgcattgtgc tgctgcattc atggttagaa gctttccatg cctaggttct agggaattta
tttttctatg tgtatatatt ttcaaacttt gtttcctggg tactgggcat gtgcctgtct
                                                                     3840
gagcccagg tctgtctaca ccccaccatt cattctgtct gtctgttccc tggacactgc
                                                                     3900
                                                                     3960
ctaaaagggt ctcaagacag tgccctgtgg gttcctagga ctagggccca tcactgttct
                                                                     4020
cttctgctgg gaaatgcagc tttaaaatgg ctaaccacag cagagggcag atgcttgata
gattatettt teettgettt ettgtttetg tittgaaagt gaaatggggt titaaaattgt
                                                                     4080
tatttaaact ctttttccaa ataaaggttt acctttttc cccccaa
                                                                     4127
<210> 12849
<211> 973
<212> DNA
<213> Homo sapiens
<400> 12849
                                                                       60
tgatcttggg gtggggtctc aagacatgaa tctagattga gaaatgtgtt gtaagatctc
                                                                      120
cctctattag ctgaggtaaa ttcccactgc tgtgaggcct gggaggaaca gggcttgagt
                                                                      180
gaagectect geettgacae tgetggggta eagetttett etgteettee eaagtgagag
                                                                      240
aatgattett tggactgett tteattette etceatetge teececeatg cetecteeta
                                                                      300
gtatcttctg cacttcagga gggtctgtgc aaagtgggat aagatgtgtg ttttcctgat
                                                                      360
taaagctatg gcagctgcat gagacatgat gcgggtggca catgcctctt gctgagcatc
tatttctgat ctcttttgca ttctggagcc agggctgagc agtgggccat ctgtcgctgg
                                                                      420
aaaaatgtct cttccttcct aggcctacct ctgttggtgc ttttgtcttc caacctccct
                                                                      480
                                                                      540
atgtagtaag accagccaag cccacatgcc cactgggagc cctgaaacca gatctggttt
                                                                      600
tctgtcttac ctgaacaggt tcccagaacc cacaccaggc ctctgaatca gtctctgaga
                                                                      660
atctgattga tttaaagcca cttggttgct tccattgcac tacctgggtt gcgatcccct
                                                                      720
caattgattt agtaaaaaga aaacttagcg gccgggtgcg gtggctcaca cctgtaatcc
cagcactttg ggaggctgag gcgggtggat cacctgaggt cgagagttcc agaccagcct
                                                                      780
                                                                      840
gaccaacatg aagaaatccc gtctctacta aaaatacaaa attagccggg cgtgatggcg
catgcctgta atcccagcta cttggaggct gaggcaggag aattgcttga acctgggaag
                                                                      900
                                                                      960
cggaggttgt ggtgagccga gatcatgcca ttgcactcca gcctggacaa caagagtgaa
                                                                      973
actccatctc aaa
<210> 12850
<211> 3386
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (1321)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (1653)
<223> n equals a,t,g, or c
<400> 12850
aggaagggct gcactttggc gtagagtaca taggcatgca acatgggagg gcaggcctta
                                                                       60
                                                                      120
tgaaatgtat atacagaccc cttggggtga ggggcccgg ccaggaggca ctgagcaagg
gaggggtcca tctcccgcct ggccgggagt ggggctctgg ggcaatctct aagggttgca
                                                                      180
```

240

tatccccaag gagagggac agctgccact cctgcctctg ttatcccaac ccaaaccgga

```
300
gagggtgctc agcaagaaca caggtcccat aagccaagaa ggtgttggca tccctgtcat
tgaattcagg ggtccaagaa ctgtttgcat aaaatatcat tagacctaag agatggtcaa
                                                                     360
aggcacaaag tttaaacatg gggggggcgg gtgttgagag gggtctggga taccctgaag
                                                                     420
cccaqaqqtq tgatttgttc ccccttgccc agaagggtga ctgttccact gggcctgtca
                                                                     480
ccacaggaca ttttccatga caagcactca ccttcttggg gaaggggcat caggttggca
                                                                     540
caggaaaggc ccaggtgagg ggccactctg tacattaata ctttggtgat taatgtttgg
                                                                     600
                                                                     660
ggagaggcag gattctcacc caggcttttg actcaaaccc tctcactcag ctggatatga
                                                                     720
aacccagagt ccatgctact cccagctctg acacaaggcc aagcccacag aacactccca
                                                                     780
aacgaggtcc cgagagttag ggaatagggt ggaaaggatt ggagggcatc ttctggaaga
                                                                     840
qaqcqctagg gcagatcaca gtttccgctc cacaggttgc tgtagacaca gttcgctgcc
cgcagagatg atgggcaagt gattgtccat gtggtagctg ataaggtgac tgacactttc
                                                                     900
                                                                     960
aaagcggtga tccttagtcc gaacctggga gggtgggaag gaagaaggtc aattcaggtg
                                                                    1020
aaqaqtcaaa taaqacctca gcctccaagg tggaagaggg tgaaacagac aagaggcttg
                                                                    1080
aaggcaggag aaaaaaatgg tgggggagag tgtggcctgt caatcctgat cattgaggct
                                                                    1140
tctctagaaa gagacagttg taggaataga caggtcagtg aagtgagaaa aggcaaaggc
gacatcagcc ctgaaagagt gaagctgaga gctatatacc cctttcttga cctggaggaa
                                                                    1200
                                                                    1260
gttggcatgt ctcacaagag tatacacagt gcaaaaaaag atgtggaggc tgggcatggt
                                                                    1320
gggtcctgtg cctgtaatcc cagcactctg ggaggccgag ggaggcggat cacttacccc
                                                                    1380
nggtagatca agagcagctt gggcaacatg gcgaaacccc atctctacca aaaaaaaaat
                                                                    1440
acaaaaatta accaggtgtg ccaccacacc gcagcctgag tgacaaagca aaaccctatc
tcaaaaaqaa agaaaggaag ctgagattac tgtatacaac agacactagt ttttttgttt
                                                                    1500
ccagacaggg tctctgtcac ccatgctaaa gtacatgggc gccatcttgc tcactgtaac
                                                                    1560
ctccactcct gtgctaacga tctcacgctc agcctctggg taggtaggac tacaggcatg
                                                                    1620
tgtcaccatt cctgactaga gacaaggtct cgntatgttg cccagctggt cttgaactcc
                                                                    1680
tggcctcaag caatcctccc acctcagctt cgcaaaatgt tgggattaca ggcatgaacc
                                                                    1740
accacactg gctaaacaag gaaagttttg aagaacagtg aggcagtgca gataagagaa
                                                                    1800
                                                                    1860
agcacagtgg totgagtcot gagtotgggg agctggagaa gcccttggat cttottacaa
                                                                    1920
aaggaaactt gcagtgtcta gcctctaacc atctgacatt gggcatcaca acctcttcag
                                                                    1980
ggtggtttcc ttatttgtca aaagaggggc acagatgaga tgactgcctt ctagctctga
2040
ttcagacaga gtctcactct gtcacccagg ctggagtgca gtggtgtgat ctcagctcat
                                                                    2100
tgcaacctct gcatcccaga ttcaagcaat tctcctgcct cagcctcctg agtagctggg
                                                                    2160
                                                                    2220
actacaggtg cctgccacca cacceggcta atttttgtat ttttagtaga gacagggttt
                                                                    2280
caccatattg gtcaggctgg tctcgaactc ctgacctcag gtgattcacc tgcctcagcc
tcccaaagcg ctgggattac aggtgtgagc caccacgcct ggccctgtgc caggactata
                                                                    2340
aagaacatag ttcacgctaa gggatgagcc tctggtatga agatgccaga cactttaaag
                                                                    2400
                                                                    2460
agcaagagag gcccatagac agctgcccag cgggaatgtc tacaaagcaa tgagggaagg
aagagggata cactgtaggg tactgtacct teetttttge caccectcae ceacacattt
                                                                    2520
gccacactca ccacaccctc agggtccacc agtagcaaat gcttaggctg cccactctgc
                                                                    2580
                                                                    2640
aagccagtga gcacatactg gccaggtgtg gtcgtgctct cccgtaccag gaagtcccca
ttgaactgca gcagtgcctc agcctcccgc cggctcagct tcccatggaa ccagggctcc
                                                                    2700
cctcggagct gctaaaccat agacacccta ctggggacgt ggaggcacgc gcaagagcat
                                                                    2760
cttcgaaggg ctctggaagt atagagggag ggtgagggga agtagcaggc acaacacac
                                                                    2820
                                                                    2880
cccaagaccc agacttcagg gaagggaagt caggaaggaa agagcagata ggcaggagaa
                                                                    2940
gggccagaac caagtagaaa ggtggggatg cagagaggag agagacgagc actcactcat
gtcaaacagg tcccggggtg cactgccatt gatagcagga ttggggggcc cagcaccacc
                                                                    3000
cactgcttgc cgggccttgt ctaggttctg gacgttgaca taggagggat catcaaaaag
                                                                    3060
ctctctgcct gctgaggaaa gggaggctct acagtgatcc cagccctgcc tccaacactc
                                                                    3120
cccagctctg cctatctcgg ctcccttcat acctggacag ggtggtggag gtggcatctg
                                                                    3180
tttgcggact tctggatctc ccccaacagg ctgtcctaca ggctgcaggg ataaaaataa
                                                                    3240
ggtgagacca gaagccctaa ccaaccactc ccaccctagc cccagcccgc ctccatccaa
                                                                    3300
gcaacttacc aatgtagctc ccaagtggct gggggtctgg gcattgggtg cagtgggtcg
                                                                    3360
                                                                    3386
```

```
<210> 12851
```

agcagccctg gagcggcgtc ttcccg

<211> 3321

<212> DNA

<213> Homo sapiens

<400> 12851

cctgagtatt	tgacttcctt	cgcttctttt	ctggactctt	catttgcaga	cctggaagag	60
		caagtttccc				120
		taacgtcaat				180
		aaatagattg				240
		catctttcga				300
		gagtcctcaa				360
		tcacctgagc				420
		cctctgaggt				480
		gccttgccct				540
		ccctccagct				600
		agcggcagcg				660
		aggggcagcc				720
		agccgccgcg				780
		cggaaccgga				840
		cggacgagac				900
		cacgcgagtg				960
		gcagcgcgcg				1020
		gcgcgcgcga				1080
		cgccgggcag				1140
		acatccccat				1200
		ccccagctt				1260
		ggcgtacaca				1320
		taatgaagag				1380
		gaggccagga				1440
		gcttgctgtg				1500
		gaactgcagg				1560
		ctctcagtct				1620
		ctgcctcagg				1680
		aaaatgccaa				1740
aggtgatgta	taaatgtaat	aattgattat	cattttgtgc	tcaagaataa	gcaatggaaa	1800
		tacagcccta				1860
		ggtatgtggg				1920
		atccacctgg				1980
		cccagaaagg				2040
		cataggcatg				2100
		gaggggcccc				2160
		gtggggctct				2220
gggagagggg	acagctgcca	ctcctgcctc	tgttatccca	acccaaaccg	gagagggtgc	2280
		agaagccaag				2340
		ataaaatatc				2400
agtttaaaca	tggggggggc	gggtgttgag	aggggtctgg	gataccctga	agcccagagg	2460
tgtgatttgt	tcccccttgc	ccagaagggt	gactgttcca	ctgggcctgt	caccacagga	2520
cattttccat	gacaagcact	caccttcttg	gggaaggggc	atcaggttgg	cacaggaaag	2580
		tgtacattaa				2640
aggattctca	cccaggcttt	tgactcaaac	cctctcactc	agctggatat	gaaacccaga	2700
gtccatgcta	ctcccagctc	tgacacaagg	ccaagcccac	agaacactcc	caaacgaggt	2760
cccgagagtt	agggaatagg	gtggaaagga	ttggagggca	tcttctggaa	gagagcgcta	2820
gggcagatca	cagtttccgc	tccacaggtt	gctgtagaca	cagttcgctg	cccgcagaga	2880
		catgtggtag				2940
		ggagggtggg				3000
		aggtggaaga				3060
		agtgtggcct				3120
		gacaggtcag				3180
ccctgaaaga	gtgaagctga	gagctatata	cccctttctt	gacctggagg	aagttggcat	3240
gtctcagaag	agtatacaca	gtgcaaaaaa	agatgtggag	gctgggcatg	gtggtccgtg	3300
cctgtaatcc	cagcactctg	g				3321

<210> 12852

<211> 12493

<212> DNA

<400> 12852 60 cggcccacac cagctcaccg aggggcggca gcgcgggcc cggctgccgg accgtaccat 120 cccgggcggt ggagccgccg aggagggcg cgcgcgaccg aaggcgcacc cgggaggccc 180 aggtageceg ggggeeggtg etggggegee ggeaggeegt teeegeeteg acceaecegg 240 agccagccc ctctgcggac acgacatccc atggggacgg tggcgcgaaa cgccccactc 300 tgccgcaccc aaactctgca gacccccagc ttccctgggc ggccgcgacc tcccgcctcc ccgtctgccg ctgagggccc gcggcgtaca caataggctt cccagaaggg ttaagaggca 360 gaggtagaag aaatacggac tttaatgaag agttttccct ttggtataag tgagacccgt 420 480 ggaaacatcc aaacagcaaa aggaggccag gatgaaaacg gtcaactctc ccttatccac aaggccaaaa gaggggggc cggcttgctg tggtgtgcca ccccgggcct aggctggccg 540 600 ggcctgtaga aggtactcag gaactgcagg ttttgcgttt cccctccatg aaactgacag 660 gcattcgggc tgacttctgc ctctcagtct cgcggtaaga gacccaagtt tttctagtcc tagatggaaa taaatttcat ctgcctcagg tctctggtat aaaaggtgcg atcccagtta 720 780 cctcacaggc ctaggcgagg aaaatgccaa gagctgtaaa agggcttgga aaagtcaaaa 840 aggtgatgta taaatgtaat aattgattat cattttgtgc tcaagaataa gcaatggaaa 900 agaaaatagg aaagtaagtc tacagcccta aaatatatgc atataaaaact ttaaaagaat gcagttccaa ctctacagat ggtatgtggg gattgtctac tgctttatag tctcaatgcc 960 1020 ccttttctca cctccacaaa atccacctgg gagagttaac tgtacaagag gcccaaattc 1080 agtcacccc accccgcct cccagaaagg gaggcagggc agaggcttca ggaggaaggg 1140 ctgcactttg gcgtagagta cataggcatg caacatggga gggcaggcct tatgaaatgt 1200 atatacagac cccttggggt gaggggccc ggccaggagg cactgagcaa gggaggggtc 1260 catctcccgc ctggccggga gtggggctct ggggcaatct ctaagggttg catatcccca 1320 gggagagggg acagetgeca etectgeete tgttateeca acceaaaceg gagagggtge 1380 tcagcaagaa cacaggtccc agaagccaag aaggtgttgg catccctgtc attgaattca 1440 qqqqtccaag aactgtttgc ataaaatatc attagaccta agagatggtc aaaggcacaa agtttaaaca tgggggggc gggtgttgag aggggtctgg gataccctga agcccagagg 1500 1560 tgtgatttgt tcccccttgc ccagaagggt gactgttcca ctgggcctgt caccacagga 1620 cattttccat gacaagcact cacttcttg gggaaggggc atcaggttgg cacaggaaag 1680 gcccaggtga ggggccactc tgtacattaa tactttggtg attaatgttt ggggagaggc 1740 aggattctca cccaggcttt tgactcaaac cctctcactc agctggatat gaaacccaga 1800 gtccatgcta ctcccagctc tgacacaagg ccaagcccac agaacactcc caaacgaggt cccgagagtt agggaatagg gtggaaagga ttggagggca tcttctggaa gagagcgcta 1860 gggcagatca cagtttccgc tccacaggtt gctgtagaca cagttcgctg cccgcagaga 1920 1980 tgatgggcaa gtgattgtcc atgtggtagc tgataaggtg actgacactt tcaaagcggt gatccttagt ccgaacctgg gagggtggga aggaagaagg tcaattcagg tgaagagtca 2040 2100 aataagacct cagcctccaa ggtggaagag ggtgaaacag acaagaggct tgaaggagga 2160 gaaaaaaatg gtgggggaga gtgtggcctg tcaatcctga tcattgaggc ttctctagaa 2220 agagacagtt gtaggaatag acaggtcagt gaagtgagaa aaggcaaagg cgacatcagc cctgaaagag tgaagctgag agctatatac ccctttcttg acctggagga agttggcatg 2280 2340 tctcagaaga gtatacacag tgcaaaaaaa gatgtggagg ctgggcatgg tggtccgtgc 2400 ctgtaatccc agcactctgg gaggccgagg gaggcggatc acttgagccc gggagttcaa gaacagcttg ggcaacatgg cgaaacccca tctctaccaa aaaaaaaata caaaaattag 2460 2520 ccaggtgtgc caccacacg cagcctgagt gacaaagcaa aaccctatct caaaaaaaa gaaaggaagc tgagattact gtagaaaaca aacaaaagtt tttttgtttc cagacagggt 2580 2640 ctctgtcacc caggctagag tacagtggcg caatcatggc tcactgtaac ctcgaactcc tgggctcaag cgatcctcag gcctcagcct cctgggtagg taggactaca ggcatgtgtc 2700 2760 accattcctg actagagaca aggtctcgct atgttgccca ggctggtctt gaactcctgg cctcaagcaa tcctcccacc tcagcttcgc aaaatgttgg gattacaggc atgaaccacc 2820 acacctggct aaacaaggaa agttttgaag aacagtgagg cagtgcagat aagagaaagc 2880 acagtggtct gagtcctgag tctggggagc tggagaagcc cttggatctt cttacaaaag 2940 3000 gaaacttgca gtgtctagcc tctaaccatc tgacattggg catcacaacc tcttcagggt 3060 3120 3180 agacagagtc tcactctgtc acccaggctg gagtgcagtg gtgtgatctc agctcattgc aacctctgca tcccagattc aagcaattct cctgcctcag cctcctgagt agctgggact 3240 3300 acaggtgcct gccaccaca ccggctaatt tttgtatttt tagtagagac agggtttcac catattggtc aggctggtct cgaactcctg acctcaggtg attcacctgc ctcagcctcc 3360 caaagcgctg ggattacagg tgtgagccac cacgcctggc cctgtgccag gactataaag 3420 aacatagttc aggctaaggg atgagcctct ggaggaagat gccagacact ttaaagagca 3480

3540 agagaggccc atagacagct gcccagcggg aatgtctaca aagcaatgag ggaaggaaga 3600 gggatacact gtagggtact gtaccttcct ttttgccacc cctcacccac acctctgcca cactcaccac accctcaggg tccaccagta gcaaatgctt aggctgccca ctctgcaagc 3660 3720 cagtgagcac atactggcca ggtgtggtcg tgctctcccg taccaggaag tccccattga gctgcagcag tgcctcagcc tcccgccggc tcagcttccc atggaaccag ggctcccctc 3780 3840 ggagctgctc agccatggac accgactggg gaggtggagg cacgcgaaga gcatcttcga 3900 agggetetgg aagtatagag ggagggtgag gggaagtage aggeacaaca cacacccaag acccagactt cagggaaggg aagtcaggaa ggaaagagca gataggcagg agaagggcca 3960 gaaccaagta gaaaggtggg gatgcagaga ggagagagac gagcactcac tcatgtcaaa 4020 caggtcccgg ggtgcactgc cattgatagc aggattgggg ggcccagcac cacccactgc 4080 ttgccgggcc ttgtctaggt tctggacgtt gacataggag ggatcatcaa aaagctctct 4140 4200 gcctgctgag gaaagggagg ctctacagtg atcccagcc tgcctccaac actccccagc 4260 tctgcctatc tcggctccct tcatacctgg acagggtggt ggaggtggca tctgtttgcg gacttctgga tctcccccaa caggctgtcc tacaggctgc agggataaaa ataaggtgag 4320 4380 accagaagcc ctaaccaacc actcccaccc tagccccagc ccgcctccat ccaagcaact 4440 taccaatgta gctcccaagt ggctgggggt ctgggcattg ggtgcagtgg gtcgagcagc 4500 ccctggagcg gctccttccc gaagcctcat gtctaccacc cccccaagg tgttccttcc 4560 ccgggaagtc attatagtac tgatggtcag gtggctcttc ctcctcctca tcccatgctg 4620 agccatcaaa gccagccatc ctgagggaca ggacagtgaa gctgtggctg taaatgtgtg 4680 gtgggcagga ggagggaagg acagaataga acagcagcca tctattgggt atttactatg 4740 gattaagcct gaggctgagt gttttatata cataatcatt tcattctcct ggcaaccccg 4800 taaggtaggt attgtttcct tccccacttt tacagatgag gaaaatgagg gtcagaggtg 4860 aaaagatctg cccaaggtct cacaactaaa aggcggccga gctcagattt aaattcaggt 4920 ttgactttaa ageteateee ettggeeagg tgeaatgget caegeetata ateceaacae 4980 tttcagaggc caaggagga gggttgtttg agcctaggag ttcaagacca gccaggacaa 5040 catagogaga cottatotot accagaataa aaatactact actcagocag gtgtggtggc 5100 atgcacctgt agccccagct actcaggagg ctaaggtggg aggatcactc aagcccagga 5160 tatggagget acagtgaget gtgattgtac cactgaactc cagcetggge tacagagcaa gactgtctca aataagtaat gctcttgctc ttgatctctg tgctatctcc caacaaggaa 5220 gggaagcacc atgtaggggg gtggggggcc gggggaggca ctccagctcc agaatatttt 5280 5340 aacctctcct aaatattcaa tccctactgg ctccactgct tatccctcaa ggcctgaggt 5400 gggaaaggtt gtaatctcag ggaaaagaga tatcctccca aacccaaatt cttgatggct 5460 tctagaggca ggaaaacaca taatgccaag cagagaaatg agcaagaaag agggatggga 5520 gtagaaaatc ccacctagcc agagagagat gtaacttgga ggccccggac tacaactcca ccatgagcaa acaagaaaag ctggtcctgc ggcaagcagg gcctcaaaaag tctttcctcc 5580 tgggccacag gaaacagaag aatagcagga agtgggaagc agaggcacac aggttattcc 5640 5700 ctccctgaac ctctcaactc aagtgtagga agagcagccc tcctttccta atcctaatcc 5760 aagagetget ceacactete eccacetget cacetgteat gaggggtgae cagtttgggt 5820 gggttcctga ggtattgttt gaagcgcaac tcgaaggcct ggccaatggt gctgatgaca 5880 tcctgggcaa gcccttcggg acactccaga atgtggcagg ctgagggcac agcagaggct 5940 gtcagtgagc tgagcccact gggaggaggc acagacaggg gccctcatct tcctctgcag gaacccccac tgagatctac ttagagtggg tacagatgac caaaggtcct actcacctcc 6000 6060 tcaaacagcc agacccaccc agtgctcccc accatgcctc acctctctga ttcacagggt ctttggcaac ataggcgaca tactcggctg tgtcctgggg aggaaggtca aaaaatttta 6120 6180 cagttctact ttactcctga cccctaaaac ccagtccttt tcagatatcc ccacaatcct agcacccca cttctctaat caatgtcttc ccaatcccta gccccttgct cttctcccac 6240 cgcctttgct ctgttcccca actcaccgga tccccgccgg atgcaaatga gatagattgc 6300 atgtggtggt tggcgatgat ctgagaatta gggcagggga tgaagaagga agggaatgcc 6360 6420 atgtgtcagg cagcctcagg gcccagaacc ctggtgcccc agtctcattc tctgggttcc 6480 ttatcccata tcctcatttc ctccttccct actggtctcc tgctctcaag ccctcttcct 6540 agattttggc ctcctaacta gatctcccct tagcaccccc atcagtgttt ctggtccgtc 6600 tgcccacctt caccaacctg tttgcagtct gcggccatga ggttgaggct gctggtggag 6660 acggtgagag tgattggcat tccagcaaat ttcaggttac tcctccccag gatagagctg 6720 agcgggcggc tacagggcta aggtagggcc cagggtctca gaaggtgagg gttcccagca 6780 caggcaaacc acacttttgc ctcctggccc tctccccaca tgccccacac ttgcctcccc actgcccctc cacatttccc agcagcatcc ctatccccaa ggaccccaag tacctttctc 6840 6900 ctccttgtcg ccccttagc acccggcaca gcctcacaca ccagactgat ggcctccctg gggaaagagg ggtactcaga cccagcgcct gcctgcctgc ctcccactca actggggctg 6960 ccacagggct gggggagggg aaagccaggc cagactccca gggcactcca ggctctttgt 7020 catggtggat tgaattaagg gcctttaata tttgatgaca ctgagaggcc acttcctggc 7080 7140 tgattgggtt agggcctcaa tgggtatagc cccacccct tccagctacc aaatgtccca

7200 ttcccttccc aaaggcagca gcaaccttcc atctaccccc cttttctact ccagctccac 7260 ctgccagctg cttctgccac cttccccaca actcccaagg ctggataggt aaggaggatc cgggccaaag gggcctcctt tcagtaagag gcggaatcac tacctcagct ttctctcaat 7320 ccctttact acgcaaagat cagccccag cagcagcacc caagtgaccc actcccctcc 7380 tctgtttccc atggcctcac taatcccagg actcccacaa tccactccct ccccactaac 7440 7500 ctggtgacct gagtccgggt gttgaagtcc agggcacgca ttgactggag gacctccaca 7560 caacccatgt actaagggga gggagaagag gacagcaggt cagcggctcc cccaccccag 7620 ccccttcaca aagggcccta ggactttacc catatggtcc ctaagggaag taaagaggaa gaagttctgc ccacttcccg tggctacatc ccacaaccaa ggtgaaagac aacagggaat 7680 7740 gaggagaaaa agaaaaggca ggctagaagg acctcacaca ctggggagag agtttggagg 7800 ggaccgacag gcattggctg ggatggagtg acaactccag aaagcgggag gagaatggag 7860 gaaagatcaa gaagtcattc attccaacac ttattaagag cttctgccat gctgggcatt 7920 gtgctaagca tgccagggtg ggggtggggg agtgaaaaga aggaaggggg cccaggcaaa 7980 gctggaaggg aaggggctac agaatcgggg aagggatgag aaaggtttag gaaataggac 8040 actgaaacgg ggttgttggg gaacagcagg aaaaaagaga ttccggccaa gctggagtga 8100 gcattagaac tggagggggt ctgcggggga atggagagga ggatgttcac tcacccgaac 8160 caagtaggaa accccgggtc ccatgacttt gtcgttggga tgcagccagc cccgcgtggg 8220 cttattgaca aagctcccgt ggcgggtcca ctcctcgccc ccaagctggc ccccttccac 8280 ccgagtcctg cgcccgccgc ctccactcag cttgttcatg tcctggagga ggggtagggg 8340 gcctgagtct ggcatggctg cccctacgat cccctccca tcatcagctg cccttcctgg 8400 ctcccctta gacctgggc gcccccagc cgggttggcc agcctcaggt tgctcatccg 8460 ggggaagaag gagcacaggg tagtgggact atcgtcccca ggcagaggag gcaggatggg cccagggat gaagctgatg gggaaggcag ctcctccggg ggggtggacc cagaagcccc 8520 ttcctccagc gatgacagag actcattccg gagtggattg tacttgggct tggggggcag 8580 gagatccata gttgaggtga aagaggggct gctgcccagc ctggcccccc tgccagtttg 8640 8700 ggcaaggggg ccaggcaggg ggtatcccca ggcccttagc ctggttggac ctctgtggcc 8760 caggagtcac agaagtcctg gggagggaga gggacaagtg gcttccgctc cccagctcag 8820 acccagacag tttcaggccc catccccgcc caacgtggag cctcttctct ggctgagaag 8880 agaacaggct ggacccagcg cttctggctc ctccccaggg gcggggagct aaggggagag accaatcgtg aggacagtgc tgactcacag gctcagaggg gctgagcccc caccccgccc 8940 caacctcgaa ctggagcagg gggtagggct atccaagccc ctctcccctg ccctatacaa 9000 9060 acaactagta atctggggag aagtaaagtg ggggtgggag ggaaggatgg aagagtggga cggaaaggaa ggagatagga ggtctgggtc actcaaaacc ggacacacgc aggccaaagg 9120 9180 gggcaggaag ccaggcagga gtacagggga atgagggagg aaacagaggc agctgggggt ggaaaaggga ggagatetea gageteagea ttteeettee tgteetggtt ggacaetega 9240 attcccccac cctctctatg cccgaaagct ggctggcccc agcccaggcc acccccaacc 9300 gctaccccat acagtaagcc tgggccatta gcatcctctg ctacagcagc tgtggactgg 9360 9420 agctagcgaa gtggggatgg gaagtaagtg gtcccaatgg atgcagagca gggccaagag gaagagcaaa gctggtgaaa aaaggggaat aaagttcaac ctggatgata catcaggaag 9480 9540 ctaccaggca agaagggaac aagaggacat gctggtcacg gcttgttctc tacgtatgcc atctaccaca ccaagaccga tggctcatag ccaagcactg tcctgtctcc cctttccaca 9600 9660 gggcttgtta acacagcaca ctgtcaaggg tgagaatgag gcaatcaggt ccccactccc 9720 actecaaace accecaatte acatecetee tettacaggg ceetaageee caccaaagag 9780 cacagcatcc ttcacaccag ggaaggagcc tggctggagg aggtggaaga aacagttctc 9840 caagagaagt agaaactaca ggccaggaag ggacagagag atcagaagac acatctgcgt caataaggac aggagaaaaa taagtacagg agaaaggggt gtcaggagaa gatgggttga 9900 agctggacac agggaacagt cccaaaccca ttcctgccac ccacggcttc ctgccactgc 9960 tcttccggag aatgccacag gcaaagctgg aaagtgacca aaaaaaaaa aacaaagata 10020 cgtattccta ccgggcgcgg tggctcacac ctgtgatacc agcactttgg gaggctgagg 10080 cgggtggatc acctgaagtc aggagttcga gaccagcctg gtcaacatgg tgaaaccctg 10140 tctctactaa aaatacaaaa attagctggg cgtggtggcg ggcacctgta atcccagctc 10200 aggaggctga ggcaggagaa tcgctcgaac ccaggaggcg gaggttgcag tgagccgaga 10260 10320 10380 atacgtattc ccccagctc accttggaat tacccttaga tttacttcag agaattaaaa tatagataga taattatcct gattaacaac attaacactt gaagtgtgtt agatgctgtg 10500 cttaactctt acatctcccc ttagtgctca ttccagaaga gctttgtcac tctgccagcc aatcctgaga aggaatttta tcacttcatt tccagccagc tctcgggcat agagagaatg 10560 10620 aggaaaggat tccaccatag cctcacaccc ccaaaacaca caaacacaca ctaggatgtc cctcatctgt agagatgatg ttctgtggga gcctacagta tccagagcca gggaaggacc 10680 10740 aacgggtgtg ggcgttcgga agaaaagaaa gacgtatgac tcttgaaatt tacataggga gaaaggagat tgcctactgg aagtccaggt gattgggtgt aggggaaaag ctgtgtgtgg

```
10860
cttcgcagcc caactgggag gaggggacag gggcgggaag tggcaggaaa tggcgaaagc
ctcaggaatg tttccagcag ggaaggctgg gcaaacgggg ccaggaggaa tgcccagaca
                                                                  10920
agaactctgg ttagggggag gggaagagac agagaagtag cgactgaact gtcccttaaa
                                                                  10980
aaaaaaaaaa tcaaacaaca aaaagagcac tattatctac ccccactcca aactaccgtt 11040
cttctggtag tagaaaactt ttgctcatgt cacaccaca tgccacacac caacaaatcc 11100
atggtcttat ccacttatgt ctaggaaggc ctagagctac ttctgggatg aggttggtcc 11160
tgggaaggga aagccaggaa gtgaggctgg gagtctgagg gcaagtctct ctctccctct
cgtgccaaac cccacgttca gccctttcaa atagttctac ccttggagga ggttaagaaa
gaggaaaacg gggacgggcg cagtggctaa cgcctgtaat cctaacactt aaggaggctg
ataagggtgg agcacctgag gtcaggagtt cgaggctagc ctagccaaca tggggaaacc
ccgtctctac taaaaataca aaaattagcc gggcgtggtg gtgggcgcct gtaatcccag
ctactcagga ggctgaggca ggagaatcac ttgaactcag gaggcggagg ttgcagtgag
                                                                  11520
ccgagatcgc accattgcac tccagcctgg acgataagag cgaaactccg tcttaaaaaa
                                                                  11580
                                                                  11640
aaaaaaaaaa aaaaaaaaga tagaaaggaa aacggaaaac ggctgccttt aatctcactc
                                                                  11700
cttacagcca gagatgggaa ctttgacttc ccacctgggg gagcacgaga gtgctcggaa
                                                                  11760
aactgatccc aaggcccaaa aagagaaagg acaggaaaat ataagcaggt ggagtttcag
                                                                  11820
ggattgacga caaggctttt cagctgatga cccaggtccc acaaagataa agctcctaag
ggggcgtggt cccctaagga cgcgaacttc agacttctgg gcggggaggc tttctggaca
                                                                  11880
gtcagacgtg gattacggag ggggcgtggc ttcggagggg cggagcttca acaaattcga
                                                                  11940
atogttottt gaagagcagg gttttgccct tttgggagat aggccttttg acaggagtta
                                                                  12000
gccgaggatc gttgctagga ggcggagttt cggagaatgg aaggagtaac gaagggtttc
                                                                  12060
tegtagtagg gettggaacg tgtegggggg tggggaette cagaaaaact gggegacagg
                                                                  12120
gtggggtcgg agacaaaaaa taaaaatcaa gtcggggttc gggggagccc cctgaagttg
                                                                  12180
ggaggtggga cttccgggga gaggggtctc aggggcggga cttataaatg aagaccggaa
                                                                  12240
gtggggtccc gggagagggg ttccggggtg aaagagtgag tcacctaagg agaaaaaagt
                                                                  12300
                                                                  12360
12420
atcacgccac tgccagctta ggttaccgct ccaactttct ccccgggccc tgcctccctg
                                                                  12480
qaqaaacttt attacactca cttccggcct cactaacccc tgaccctcta cctcagggtc
                                                                  12493
cctccttcac gct
<210> 12853
<211> 3985
<212> DNA
<213> Homo sapiens
<400> 12853
                                                                     60
ttgtctggga ttttaaaatc attttattaa tccaacagta caaaagaccc ccaccaccac
                                                                    120
cgcattctgc catcactttg ttccaaaaag tagtggagtg agagagcgag agggagcaga
                                                                    180
tccagcaaaa acactcccc aggggccatt ttacaaaatg cggagcaggg gaagacaaca
                                                                    240
caaaaacagc aacagataaa tggggcaaac agaacaacaa acacaagagt tgagcagcgg
                                                                    300
ggtgggggtg gggggttgcc atctacgccg ttttagtgtg agggacactg ggaacgatgc
                                                                    360
ccagaggctg ctctcctccc agcctcaaag gttgtcagct ccaccagagc agggtcttct
                                                                    420
ctcctcatgc caggaactga gagaagtggg ggtaggggac cactaggtct ttgccactgt
                                                                    480
atcttgagct gggggactcc taacttctcc gagggccaca ccccatgcct gccttcccca
ccccatggag gaatgtgtgc atgaacagaa aaggagaacg agcagcgcta aggtcctcat
                                                                    540
caggccccag gcccatctct ggcaggcagt gcttaaaaaa taaaaaaaga caaataaagc
                                                                    600
ccagtgcagg cctttggctg agaggaatga gaattgctaa ttaatcacca ggcccaagag
                                                                    660
                                                                    720
gatatgaaag aatagcaaag agaagcaaca aactccaggc tcttctacct ttgagtacca
                                                                    780
tggcaatgag gatcccgccg catcccctac ccacaggctg tgacagggcc tcacttggat
                                                                    840
ccttttatca tggaggaaat gaggtatagg gctctgcgcc ttttcaagct ttccttcaat
caagccagga aggcagggga ataagggcgc cgaaagttga agaacacacg gagtataatg
                                                                    900
                                                                    960
tgcaacagat gggctggggg aggagggtac caccaaagtc cagactttca ggacagccca
                                                                   1020
aacttcaaat attctggtct gtcagataac atatcccaat ttttggcaaa aatatggtca
                                                                   1080
ttaggagaaa agcacgagag aggctgagaa aggaccagtg actttggtat gaagaagata
                                                                   1140
cgtcctgaca gcatctctca cctactgtct tgaagcccca aatcaccaag aaactgccat
                                                                   1200
aaccaggaac teteetgett eeteaggeta tttggttete tgagggggaa ggagttgggt
                                                                   1260
aagtcttgga ggaagcaaag gagtgggtag aaaaagggga aaatccccat ttattcccta
                                                                   1320
aagctgtctc ccagagccca taaaagggct attgcaggga tggcaagacc ccaattcctc
                                                                   1380
tggccagaaa cctttaacac ttgactccaa aaactaaggc tggagctgtg gggttcagta
                                                                   1440
ggggtgttag gcacaggtgt taggggcatc catcatcagc agagggaaca cccctgccct
```

```
1500
ccggatcttc ctccagcccc ttttctcttg cagccacact cctgggcctc cagaaatagc
cacaaaatgg ctctgctcag cagggctttg gtttcctgga tctctgtaga tctcaacatg
                                                                    1560
taagtttccc aaaacagtga gcaatccagg ctcttctgcc tgcccacctc aattcctttt
                                                                    1620
ctgctcccag gagccactgt ttctgcccca tggggatgga aagccagtgg aaacaaggac
                                                                    1680
caagagccaa acatcaaaaa aatcaccctg gaagagcagg gagagacatg tgcacttccc
                                                                    1740
                                                                    1800
tgggccactt caccagcgtc acccatcgtt agcagccacc agctgcccca tgccctcacg
                                                                    1860
gatgtagaca gactggatct ccttggtctt gaggcagaga tcgcaggccc agacggcaga
                                                                    1920
agetteagtg gteageagee cataggeget eteagteatg cetgtgeact caeggtggaa
                                                                    1980
ccatttctgg caggaggcct cacacagaat ggcatcctgg tcatcgttca cctcactccg
                                                                    2040
acaggcacca catgggtaca ccaagcctgg gggaggctgg gcccggagcc cccacctgcc
ttgccagggg gtgccaagct gttggcatct ggagtgcccc caccccgccc actgctgttc
                                                                    2100
                                                                    2160
ggggggaaac tgggctggtt cccattaaca gcagcagccg gggagcctga gtggggctcc
                                                                    2220
tggggaaaag cagtagaagc aggtggattc aagggcttcc ccccatcctc accaccaggg
                                                                    2280
ccaggaaagc cagggtccgg accaggaaag ggacttgtgt taggcggcag gctggggagc
                                                                    2340
ccctgaccag gtctctggag aggagaaggg ccaaaaggag cccctggctg agcaaatcgt
tgggacagag aaggtgggcc cagctctgct ctgggaggct gtcccatggt gggtgagatc
                                                                    2400
                                                                    2460
atgggaccaa atccccccac tgggcccggc atcatctgcc cactgggagg actaaagttt
                                                                    2520
tgacccagag gctggttgaa gggttggctg ggaaagttca tgttgcctgg gggtgggtag
                                                                    2580
ccaggaccct gggggggcat gttgaaagca gggcccatag gattgggagg gaaggggggt
                                                                    2640
ggctgtcgac ggagtggctg ggggccccct ccacctccag tgctgtagcc tgggggtacc
tggcccgcca tgccccctg cacacggaag cctccgaagg gcacaggact gccaaggaat
                                                                    2700
ggaggggctg caacccccac tttgggggct ccgaagtcat cttcaaaagg gttggatgca
                                                                    2760
accaggtgat ccaccatggg agttgggggt ggtgcaaact ccgtcagatg tgagtatgca
                                                                    2820
gggccctagt gagaaacagt tgagggaaag agggtcatgg agggaaacac agagctaaac
                                                                    2880
                                                                    2940
caaqagagca ctaccaacac aatacacatt ttggaggctg atactgtggg cagctcaggt
                                                                    3000
ctaaaatcaa tatggaccac aggccaggtg cggtggctca cgcctgtaat cccagcactt
                                                                    3060
tgggaggcca aggcgggcag atcacgaggt caggagatcg agatcatcct ggctaacacg
                                                                    3120
qtqaaacccc gtctctacta aaaatacaaa aaaattagcc gggcgtggtg gtgggcgcct
                                                                    3180
gtagtcccag ctactcggga ggctgaagca ggagaatggc gtgaacccag gaggcggagc
ttgcagtgag ccaagaccat accactgcac tccagcctgg gcaacagagc aagactccgt
                                                                    3240
                                                                    3300
ctcaaaaaaa aaaaaaaaa aatggaccac aggccaggca cagtgggtca cacctgtaat
                                                                    3360
gctaacattt tgggaagccg aggcaggagg atcccttgag cccatgagtt tgagtagtaa
                                                                    3420
3480
aaaaaaaaa acaagaaaaa gagggtggag agtggaacca acatagtgca gtaactatgt
tttaaaaaca ggcagaacta ggatggaatc ccagctctga ccctgaaaaa caacctcaag
                                                                    3540
actgtggagc atgtatttaa catttttaac ccccagattt ctcatctgta aaatagggat
                                                                    3600
                                                                    3660
aatgcctatc tccccaaact gttaaagcat gttagcgcaa tccctggcac taaaaaaagg
atcagtaagt ggtaggtgtt acgttatcat caggaggaaa ccaggacagg aaacatggag
                                                                    3720
                                                                    3780
gagactggaa ccctgcgtgg taagaacttt ggtcgaatca tctcttagga gaggatactt
                                                                    3840
tcccctaaac ttgttataag gttcagcgaa agaacaagaa gcaaagcaag aaagacagtt
ttctctctcc tccctgcagc tgatacaaga tacaaacaga tactggaatg gcagagtaga
                                                                    3900
                                                                    3960
cagtgtgccg ccaaggggct gctgggaacc aaacccacca ccaaccacca ttcacctgag
                                                                    3985
tatttgactt ccttcgcttc ttttc
<210> 12854
<211> 5219
<212> DNA
<213> Homo sapiens
<400> 12854
                                                                      60
tttgaaagcg aggccaaagt gggtgggagc gcgtgctgtt gggagttgct tggaggttgg
cggcgcgggg ctgaaggcta gcaaaccgag cgatcatgtc gcacaaacaa atttactatt
                                                                     120
                                                                     180
cggacaaata cgacgacgag gagtttgagt atcggttagt gctggcgcgg gacaatagcg
                                                                     240
agggtcgtga gctttggccg ctgagggcac aaggaattag taacaggaac tgaggcgata
                                                                     300
gaattggcgc atcgtacgag gtgcgaacgg gcaatggtgt gatattgtgg aaggcgtaag
                                                                     360
gcgcatgcgc ggaggtggga ggcgctcgta aaacaaagtg gttgcgaatt tggagtcgcc
tctcagtaga gaggagagag gggtgggcgt ggttagggta ctgaccaccc tcacccatga
                                                                     420
                                                                     480
ggctttctgg atcattctct gaactttatc gggcaaactt aacttgcctt gtagagactg
                                                                     540
tttcacagta atcttgtcga atccagtggg agaacgtagc aaaagcggag ctggaagttt
cctggcgtcc ctaacaggag agtagcgctg agagagttga atattgctta ttaactcgtg
                                                                     600
```

				ggggatcgct		660
atggaataaa	actggctagg	agcattgaga	aaatacttaa	tatgggtcta	atagatgccc	720
				tttcaggtgt		780
tgcaaggata	acacatggtc	tctgctgttc	acaaatttaa	aaatctgtgg	gtggtaccga	840
				tacagggtgt		900
				ctgcggcttc		960
gcgggggttg	aggtggggct	agaaagtcag	tcccctactt	ttgctaactc	caggacgctc	1020
ccccatccca	cgcttcgaga	acgccccccg	ccccgccacc	gccttggagg	ctgacctctt	1080
actttcggtc	ggtcttcttc	cctgggcttg	gtttgggggc	gggggagtgt	cctaagggcc	1140
aattcagcgt	gatgtctctt	tcaccaccat	tgaaaacgaa	accagtagta	aactacgcgt	1200
gttttcattt	atatgtcgga	gataaaaaca	cagggacaga	aagaggggaa	caacagacat	1260
tggggcctgc	ttgagggagg	agggtgggag	gaggtagagg	ttcaggaaaa	aaaaaaactg	1320
				tacaccgaac		1380
				acatgaaact		1440
				agagggcaga		1500
				actgaaattg		1560
				tggcactgga		1620
				aagggaagac		1680
				attaagacca		1740
				ttgcttttct		1800
				cgatgtgcat		1860
				aattaacttt		1920
				gtatgtgctt		1980
				atgaaactct		2040
				ccaaatttcg		2100
				atttttttt		2160
				tacattttca		2220
				aattttttg		2280
				aagtctcaag		2340
				ttttttaaga		2400
				gcacaaccat		2460
				acggaatctc		2520
				agggattctc		2580
				cccggctaat		2640
				tccaactcct		2700
				gcatgagcca		2760
				ctgtatcttt		2820
				tgggactgta		2880
				ttcatccttt		2940
				aataacttct		3000
				tgttgtagat		3060
				aacttaagtg		3120
				atttatataa		3180
atttctagct	gctgctaccc	cacaataaaa	ttatataaac	tctgacatca	aaaaccagtt	3240
tttctttcct	ttcttggcct	tgtaaacagg	catttgtcta	agagactgta	tctggtacta	3300
acataaattc	cccacttccc	cgtttctgtt	acagacatgt	catgctgccc	aaggacatag	3360
ccaagctggt	ccctaaaacc	catctgatgt	ctgaatctga	atggaggaat	cttggcgttc	3420
agcagagtca	gggatgggtc	cattatatga	tccatgaacc	aggtcagtgc	actggctaaa	3480
aacaaccata	tagaactgct	acactgagag	aatgaaagaa	taagattgta	taacccaaat	3540
agggagatag	gaaatggttt	actggttcct	tccccctcca	gtcgtggggg	attttttaa	3600
aaaaaaacta	gtgaccaaaa	ataagactaa	aatatctggg	aagttcagag	acaacctgtc	3660
actgaaaaac	ctcctgtaat	ctttcattca	atcagagggt	attcttttta	aggccacata	3720
				attcttggat		3780
taagcaaagg	aaagtatatt	tattgataag	acaccagaca	cccagctgcc	aggcaaaact	3840
aataagggac	accctggggc	tgtataaaca	tagcaaaaga	actgatatta	acaattctgt	3900
				ccatatgctt		3960
ttagttataa	agatctgagt	gggtgatagc	tggggaggtg	gtagtggaat	acactatagg	4020
				tcactctttc		4080
				aatgaagctg		4140
				catctttctg		4200
tatgttgcct	tcttgtttct	cactttgata	tttaaaagat	gttcaataca	ctgtttgaat	4260

```
4320
gtgctggtaa ctgctttgct tcttgagtag agccaccacc accatagccc agccagatga
                                                                     4380
gtgctctgtg gacccacagc ctaagctgag tgtgacccca gaagccacga tgtgctctgt
                                                                     4440
atccagaaca cacttggcag atggaggaag catctgagtt tgagaccatg gctgttacag
                                                                     4500
ggatcatgta aacttgctgt ttttgttttt tcctgccggg tgttgtatgt gtggtgactt
                                                                     4560
gcggatttat gtttcagtgt actggaaact ttccatttta ttcaagaaat ctgttcatgt
                                                                     4620
taaaagcctt gattaaagag gaagttttta taatctagtg ctgtaattgt acgggttttt
                                                                     4680
tececeteae teagggtgag cateateaat ateatggtte taattatatg ceetteagtt
                                                                     4740
tqataatqaa qctcaqctct ttgctgataa tgaggtttaa cattgagata actggttttt
aatctacttt aagcagactt gctgtcaaac atctactgaa atatattca ctctaactac
                                                                     4800
tagcctgagg tagaggttat atagggacaa cttcatctca tccaaacaaa tgaactgctt
                                                                     4860
cctacagtcg gggtgctgcc tttaacatag tcccaatatt tgaatggcac acatggataa
                                                                     4920
                                                                     4980
aaggatgctg tcagtcaggg gctgcttgtg tgtcccaatt cctaatagga ataataggca
                                                                     5040
tatctatgac ctattcactg tgccccttgg ttggggaagg ttttcagctg ttcttaactt
                                                                     5100
ggcttgggcg ttggaatcac ctggggagct ttacaagtac tgatgcctgc ctgagtcatt
                                                                     5160
cttaaggatt cttaattggt ctggagtgtg gactgggggt aaagatttca ggcatcttat
                                                                     5219
gcaggtaggt aaagaactaa gctttgagaa aacaggtgca aaatgtagct gtttaagaa
<210> 12855
<211> 12174
<212> DNA
<213> Homo sapiens
<400> 12855
                                                                       60
atttaatcac accetgacet getttgaaca taacetteag gtattttata tataatattt
                                                                      120
aaaattaaaa tgctgccttg tacaaaggaa taatgtgcag ttccaagttt ttagagcact
                                                                      180
aattattgat atttatctaa attcatgatg taaaggagtt agtggacctg gatttctgct
                                                                      240
cttaagtaag ttcttctact tacaaatcat gaaaacctca gttctctcat tgtaaaatgg
agataatatc tatcctgcct atcttaaagt attttgtaat gagaatctgg tgagataatg
                                                                      300
                                                                      360
attgtgaaaa cattgattga ggtgtgtgat tgtttaatta aaacacaatg gttttcaatc
                                                                      420
tgacttacgt aggtattttg cagtgtagta tgattctgtc tataggaagt ttattctttg
                                                                      480
cctgaaattt gcttaagtat gttttaccta ccttaaaaag cactgtttag taagataact
ttgagtattg aattatgata ataaaaggta gctttaagaa tcttaacctt gtagattatt
                                                                      540
gccatctcta tctctgactc ttgaattttg gtattggaac ttgcccggtc gtggtgaagg
                                                                      600
acgaggttgg aactctggtt aaaatgtagt tttgaaactt acataacaag taagtaatcc
                                                                      660
                                                                      720
ccatagtaga tgtacacatg cttagggtat aagcatgtat gatttcttct gtaataaatg
tggtaacact gaattatgaa tttccttgag aataataaaa attgggccag gtgcagtatc
                                                                      780
                                                                      840
tcatgcctat aatcccagca ccttgggagg ccaaggcagg caggtcactt gaggtcagga
gttcgagatc aacctggcca atatggtgaa accctgtctc tactaaaaat acaaaactta
                                                                      900
gccaggcttg gtggtgcacg cctgtagtga agtagaggtt gcagtgagtt gagatcgtgc
                                                                      960
cattgcactc cagcctgggc gttgcagaga gactctgtct caaaaaaata aaataaaaaa
                                                                     1020
aattaggtga acatttctca gaatttgttc tgcagcatgt taatagatgt cctatcagaa
                                                                     1080
agggtttagt attccattaa ggttgggaaa tgctttacta caggacttca gagcctttag
                                                                     1140
                                                                     1200
tggactgatg tgtgttgtaa cactcaaata gcaatttttc tataaagtca tcccttttat
atatggette actttecaca gttteagtta cetgtggeea actgeagtee aaaaatatta
                                                                     1260
aatggaaaat totggaaata ataagtttta aattgtacac cataaacagt ottotttca
                                                                     1320
tttaacttag agtacttgta tgagtttggt agatttctag aagtagaatt actatattgg
                                                                     1380
cagcctaaga aaaagacact agagaaaatt atctccaaat atgatgagtt tattagggaa
                                                                     1440
                                                                     1500
taagaaagaa gtatggtaat ttggaatgca ctggcaaacc accagtacat ccagtgaggg
aagggtaaag ggaagctttt attagcaaaa agggagaggt tcacacaagc tgcttggaaa
                                                                     1560
                                                                     1620
ctgagttcat tggttcctga ggctcaaagc caagttgtca gttcattggt ggcgatgcca
ttactgggca agtgttcttt tgagtgcatc ttatctgaat tactgcagtc ctaaagaatg
                                                                     1680
gcagtgataa accatgtgaa agcaggagtt gcaatgaagg gcgtgaaagg atttcttgtg
                                                                     1740
gggtttttag aaagtctttg gaaacaagga ctctttttgt ctctattttg tcttggtctg
                                                                     1800
tcaaaaggtg atttcatcct aatgtctgca actttcacat tattaaaaga tatgtgcatt
                                                                     1860
                                                                     1920
ttaaatttga ataaaaattg tggccaggta tggtggcacc tgcctgtaat cccagcactt
tggaaggttg aggtgggagg atcatttgag cccaggagtt agaaattagc ctgggcaaaa
                                                                     1980
tagcaagacc gtgtctcaaa aaaaaaaaaa aaaaaaaaagg ttaaattact ccccatctag
                                                                     2040
                                                                     2100
attatgtgca caattttagt taaatggatt atgtgctcaa ttttttttt ttttttgag
acggagtete getetgteae eegggetaga gtgeagtgge gegatetegg eteaetgeaa
                                                                     2160
                                                                     2220
```

gctccgcctc ccgggttcac gccattctcc tgcctcagcc tcccaagtag ctgggactac

aggtgcccgc caccacgccc ggctaagttt tgtattttta gtagagatgg ggtttcaccg 2280 tgttagccag gatggtctcg atctcctgac cttgtgatcc gcccacctcg gcctcccaaa 2340 gtgctgggtt tacaggtgtg aaccatcgcg cccagccctg tgctcaattt ttaactaagt 2400 gcacaattgt tctgtgaaaa acaagcaatg ggctatttct tgtagcagac taaggagaga 2460 cttagttttt ctgtcaagca gatggtgagg gtaacattgt tgggccaaca tcagtgtaat 2520 2580 tactttgatt tttctctttt ctctttcatc ccaatgttca gttaatattc tttcttcata ctacaaagta aagaataaag ggcatagaaa gcaaaggtgt gaactgactg tttagcaaac 2640 ttattcttga aaagacaagt gtcagtctag aagtacaaaa tattgagatt tagtagcata 2700 2760 atattttatg tacctccact atcctcattt taggttatac aattctttgg tatttggccc 2820 tttttgttga ctagaaaggc ctggattatg agccttgtga taagagagtt gagtggggat gcagttttgg tgccttttcc ctttccattt aaaaagttct gtctcagtaa gataaactat 2880 2940 ggtgttcaag tcagcatagg caggaaccta ttttatttat tcagtgagag taggatagat 3000 aagtgagggt ttgtgatgat gagataattt aggaaatttt gtatttagtt actagtcatt 3060 tggcatatga attattgtta tcctcagtta acattagcta atgcagcagt tttgaaaatt 3120 tagaggcacc tagaaagttc caaacagttt gccatctgct tcacataccg ggtctctaat 3180 3240 cagagtgatt tagtaaccta ctcaacatca cagcttagca ctttaacaca ccatattgtt tcccgtcttc tagaagcgta aatagcttac attaaagaga tattgtatat aatgtttatt 3300 gtatatatta catgtgcctt tgtcatttta ggggaatgca catagtcttt tacagacaaa 3360 3420 aaattattca gaagtatgca aaaactgccg tgaagcatac aaaactctga gtagtctgta 3480 cagtgaaatg caaaaaatga atgaacttga gaataaggct gaacctggaa cacatttatg cattgatgtg gaagatgcag taagtacttt gcttctgatg tgatacatat tttagagtgt 3540 tattgaatgt accttcagta tgattattat ttttggtgat agggtggaat ctgcatattc 3600 3660 tgtcctcaac caaaaataac tagttataaa gtagtaaagt tttagaatat cctggtctgt taaaccaaaa tggatatttc cttagtagtc tcatggttag gataaaaata aaacagaaat 3720 3780 taattaggta cttcataagt gagttgatgc tttggtacat tttaatcttt ttaaatttga 3840 aaatatgtgc catttgcaga ggtgtaggta ttgttatatg tttatatttc agtttcttgt 3900 gcacttgttg ctaatttaag aagtttctga gctgggcacg gtgactacac ctgtaatccc agtactttgg gaggctgagg cgggcagatc acgaagtcag gagttcaaga ccagcctgac 3960 caacatggtg aaaccccgtc tctactaaaa atagaaaaat tagccgggtg tagtggcaca 4020 cgcctgttat cccagctatt caggaggctg aggcaggaga atcgcttgaa accgggaggg 4080 agaggttgca gtgagctgag atcgtgccag tgcactccag cctgggcgac agagcgagac 4140 4200 tccgtctcaa aaaaaaaaaa aaaaaaaaaa agacgtttct ggatttcact acatgtttca 4260 gaagccattc ctcaatcact tcctattcca ttgttttatt ttcttatatc tattaccatc tgaaaatatt tatttattta tttttagtct gtcttcctca ctaaaatata agccacatga 4320 ggacaaggac ttaggctttt tttgttcact attcagtatt taggacagta tttaggacag 4380 tctagcatat aatgggctta ataaacatgt attaattgaa tggtcaaaaa aaatttttt 4440 ttctccattt tatagcctgc ctttacatag ggtgccacta gatggcaatc atgccttttt 4500 aggcactatg atgctggagt tttggggcat tagaggaaac tgagaaatta ttggctcaaa 4560 gtagagaact tgaggtcaga attaatgagc ttaagaattg agaatgtgtg aattatcaca 4620 gcagctcaga gggaactata agaaccaata atattcgaga tggtaaaaag tacttaaaat 4680 gaaatgtaca gtgtggcttt ttgtttgttt ttactgctcc attcctattg cctaaaacag 4740 tacctggttt ctagtaggct ctcaataaat aataaatatt ttgtaaatga ataaaacagg 4800 4860 gcctaactat attcctcttc atataagttc tttgtttgaa tgtacaaatg gttgacattc tagaatactt tggtcagtat tatggactta gaatatgaaa tttctgtatg gatataaatt 4920 tctacaatga ctgtattttg aaccaggttt ttttcctggc agaagaagtt gtcctcaact 4980 atcagtaggt ttttagaggt atgtattgag tctaaattct agattcctgt ttagttatta 5040 gcaaaataat tataagaaat tgaagacaag ttaaatataa aatagaaaga tattgtttgc 5100 tcttgttcca gatgaacatc actcgaaaac tatggagtcg aactttcaac tgttcagtcc 5160 cttgcagtga cacagtgcct gtaattgctg tttctgtgtt cattctcttt ctacctgttg 5220 tcttctacct tagtagcttt cttcactcag agcaaaagaa acgcaaactc attctgcgta 5280 agttttttac aattatttat tttatagata aaagcctgta ttttaaaaaat ttaggcctgt 5340 5400 tttagaaatg atagctactc tgagaactca aagtagatta gcctaaaagg actctctgct 5460 ttaagtttta caatcatgct tactagtgaa agagatctgt gaaaatttta taagtgtgga 5520 caataaaaag ttaaaacagg gctaggtgca gtggctcatg cctgtaatcc cagcactttg 5580 ggaggatgag gtgggcggat cacgaggtca ggagatcgag accatcctgg ctaacacggt 5640 gaaaccccat ctctactaaa aatgcaaaaa attagccggg catgatggcg catgcctgta 5700 gttccagcta ctcgggaggc tgaggcagga gaatcatttg aacttgggag gcggaggttg 5760 cagtgaaccg agatcgcacc actgcacgcc agcctgggag acagagtgag actgtctcaa 5820 aaaaaaaaa aaaaaaaaa gttaaaaacac agtgtctttc agatgattaa attgagaaag 5880 ctagattacc cctggaataa ggttggcaac aacagaagaa taacaacaga ggctttgcac

5940 tcctaacatg gcaatagcag ggagatacag acagctctta gacccatcgg agtcatggta 6000 gaaccaccta agtgtggcag gcaggaagaa actatagctg acataacaga cagtttgttt qtgaacaaat tggaatcgta gttccaagga gattacttga tataatagta tatgctcaat 6060 acatattaat teeettett teteeetatg aaataggeea gageaaaaga ageaetaaet 6120 agagatccca tccagctaag gaagagtggc ttctaagtca cgtggctttc ttgtttatta 6180 tcagaatgaa agtacaggct tatgccttaa taattttagt ttttaaaaaaa gagaactgtt 6240 taggggaaaa ggttaatttt cttttctctc aaatactatt tgtagtctag gaatgtctga 6300 6360 tataaaaatt cttttcccta taaatttcga tcactacttc atctaacttc acttctaata 6420 tatctaattt ttttaaaaaa aggttacctg tagatcagtt tgaactgaat ttgtaatgtt ttgtcacctt aaaatgctag ctactagagg ggagagtctt tgtcatgggt gtatttatta 6480 aaggtttttt gaaggctgcc agcattctgt aaatatgcag tagctcaggt ccttaaagca 6540 6600 cttacttaga ataatagcaa aatattgtgg gcacctcacc attgagaaac tatttttcag 6660 agettggtat acttttaaag tttagcatet tatttgeett getaatetat ttaaetttat ggaaagtatt tactgcttct gatcaggatt ttttgtttgc tgtcaaagta aaagtcacta 6720 6780 ccagtgtcac tatttgctat ggaagccaca aaccttgtag tcatttctta attatttct 6840 ttcttttatt tttccattcc cacattcccc tctcatcccc ttttaattca ttagcaagta 6900 tgctgccagt tctgcttagt ccgtctctct ccctccactg gtaaacccta gcccaaacca 6960 tetteatete ttatetgtae taaegeaaga geceettaae tggtateeet eetteeattt 7020 cttgatctac taaaatccat acgccacata gtggctagaa taattttta aacacaaatt 7080 caccatgttt ctctactaac ttggaatgct taatgtgttc ccattgtacc tagaataaat 7140 ccaaacttac tttccagggt ctgctctcca agctgtacat gacctggccc atagccacct 7200 ttctaaactc gtcacatcca ttctcctcat tgctcatggt gctgtggaca gtctggttcc 7260 tttctqttct tctccactac caagctcatt cacactgccc cttttccaag gcccttccct ctttacttac ctggcttctt gcaagccagg tcttagctct aaagttactt gctcaaagag 7320 7380 accttttatg actccccagt ctaagaatac acctctccat ttgttcttct gtgccgtctt 7440 tctttaatqq cacttaatca cttaaactaa tttaaattaa ataattggtt atttaaatca tctttttcat ttattctcta ctttatttgt ttgtcttccc tgcctgaagg gaggagctaa 7500 7560 ctgcattaga ggtgttgaaa ttcaccgtta gatgatccct gggctagaat tttaaaggat 7620 gtggggattt atcaggtagg gaatataaag gcaaggaaga tgtaggtgta tgtactcatt cgtatttaac ttgtccagtt tattaagtca tttgaatttt gtcagaagct agatcacttc 7680 7740 tagtagtttt taacaaagta attctcaaaa acccaaacta ttgatttggt ttgcctccca 7800 aatctactga aggcttaaga agtagatttt agtttaggcc aatgttttta gtttaagttt tccctttatt ttaagctgaa gcagtacact cgtccaggaa gtcatgttgt gattttccac 7860 7920 ttacagttga tagaaaccag agacaggccg ggcgcggtgg ctcacgcctg taatcccagc actttgggag gccgaggcag gtggatcatg aggtcaggag attgagacca tcctggctaa 7980 cacggtgaaa ccccatctct actaaaaata caaaaaaaa attagccggg cgtggtggca 8040 gacgcctgta gtcccagcta ctcgggaggc tgaggcagga aaatcgcttg aacccaggag 8100 gcagaggttg cagtgagctg agatcgcgcc actgcactcc agcctgggcg acagagtgag 8160 actccgtctc aaaaaaaaa aagaaaaaaa agaaaccaga gacattggta ggccaggcac 8220 8280 ggtggctcac gcctgtaatc ccagcacttt gggaggccgg ggcagacgga tcatgaggtc aggagatcaa gaccgtcctg gctaacacgg tgaaatcctg tctctactaa aaataccaaa 8340 aaaaaaaaaa aaaaaaaaa attagctggg cgtggtggtg ggcacctgta gtcccagcta 8400 8460 cttgggaggc tgaggcagga gaatggtgtg aacccaggag gcggagcttg cagtgagcca agttcgagcc attgcactcc agcctgggtg acaaagccga gagtccgtct caaaaaaaat 8520 8580 aaataaaata aaataaaaaa agaaaccaga aacactggtt ctcatccttg gctacacatc agaattatct gcagagcttt aaaaaagtac aggtactagg gtcccattgc agagcttcta 8640 aatcataacc cctacccaag ttttgtgaag ctctgaagta gggagactct tagttactca 8700 gtataaaata ctctcactat gggcatgatt gtttttcatt tctagaacat gagaaacatt 8760 8820 catgtttaac tataagtaca aaacatatta ccaagccaaa tagccatgat ttgttttatt aaccctaatg actcagtccc attagcatca aatcagaatt gatggtaacg tattttgtta 8880 8940 gcagccatat gtgtttgtgt gtttatataa cataaaactc acttttcttt gaggatcatt 9000 aaaatttttt ttttacaata cagagttcca taataatata caactcactt ttctttgagg 9060 gtcattaaaa tgtttttgtt ttttttttt cccattacag agttctttca ctgattttt 9120 tttcatctga aaatagaagc agttttcttt ctttctttcc aatatgtata gctttccttt tctttctctt gccttgttgc gctggtgata aattagtggc atgatgtcaa gcaagaccag 9180 9240 gtattttcgt cttattccag atcttagggg gaaaaatcat tcagtctttc acagttaagc 9300 ataatgattg ctatagaatc tttgtacatg ctctttatca ggttggggaa gttttcactg aattettta agagaaatte agatttggat ttetaaetta gaettttaga tgtataattt 9360 9420 9480 atttaagatt gtgatgttca agaagatata aatgatgttg ttttatttgt actgcttcta acaaagtcat gtgcaatttc taacaaagtt atgtgttttt aaggttggta gaaaaaagtt 9540

```
9600
ttaattaggt tttaattctt ataaggctgg aactgttagg attcaaacat agaattaata
gataaatact atagattaca taaaaatagt aaataatcat gtttgataat taaatttaaa
                                                                   9660
ttaaaatata attcttttga tttatctagc caaacgtctc aagtccagta ccagttttgc
                                                                   9720
aaatattcag gaaaattcaa actgagacct acaaaatgga gaattgacat atcacgtgaa
                                                                   9780
tgaatggtgg aagacacaac ttggtttcag aaagaagata aactgtgatt tgacaagtca
                                                                   9840
                                                                    9900
agctcttaag aaatacaagg acttcagatc catttttaaa taagaatttt cgatttttct
ttccttttcc acttctttct aacagatttg gatattttta atttccaggc atagcaatgt
                                                                   9960
tatctatttt aatgtgtatt tgtcacaata acagaacatg caagaacaat cattatttta
                                                                  10020
ttttataggc atttgattac tattctagac ttctggtatc ttcttactaa cataaatatc
                                                                  10080
tcaagtagaa aagtttttga aaactaacat ttaaaaatta atcagttaca gtaaagactt
                                                                  10140
                                                                  10200
tgaaaaagaa atgtacttgt taggaagtag cttaattacc ccccattgca gtattattgt
tatatatata gttaatatgt tgtacatcac aataatatat aattcagtct ctagtttccc
                                                                  10260
tagagtcatt tttgaaacca ctgattgcaa acctccctga caatttttaa aagtagtaag
                                                                  10320
                                                                  10380
ccacattaca tttatctttg taaaaagatt tatggtaact ggtttcttac ttgactttta
taaatagtat tttacatctt atttttgcct ttatttcata agtaatttaa aaatcactgg
                                                                  10440
attgctttat tatattcagg gcaatatgga ttatttttat accaaggatt tgcatcgtga
                                                                  10500
attacattaa gttatttggc aatttataat ttattactac tttaaatcaa atgtagcatt
                                                                  10560
atcacactgt atttaaattg tcatttttta aaggaatatt ttcttcttaa gatatataga
                                                                  10620
ggattttgga gaagagagac aggagggta aaaccagctt aaggttcagc gagcagaaag
                                                                  10680
ggacctgaga ggatgctcac tgtaagactg ttggacagtg gtgtgtattg aggggatgaa
                                                                  10740
tcggaacgat agtctcatgc agaaaatagt gagattaaga tcatccttat tgtttctaaa
                                                                  10800
10860
attctatttt ggtatgtttg tattagcctt tagaaaaaac actccgtttc agaattgttc
                                                                  10920
acagttttat ttcttaggtt tttagagttc aggatttcat ttattaattt cttcttgctt
                                                                  10980
ttttggtgga aataggcttt gttgtaaaca ttaagaatat aaaatctcct ctatatagaa
acaagaattt tgttaaaaag agaatttgaa tcccttccta tactataaaa tgctctatag
ggagacaaag tgtttctttt ttcttttatg tttactgttt atgtggagtg aaatataagg
ctcttggatg tataacatac tcaaaagctg ttacactttc tctgatctgc tgtgatccac
tgaaaatgtg ctggggtttg ttctgctgtc actgtttatg ctgctggaac ttagcactgt
cttgatttga agcatatgat tgagagccat ttgaagcaat cttcattaat gcagataaaa
caagtttaca tgtgcagagt tagaaaatga catgttcaat tctgtaagtg gtgacttttt
gagcaccttt cagtattatg tatttgtaaa aaccattgtt tttggatata aagctaataa
gcactttaaa aaggaaaagg cagcctttac tattttttct ggttgagtca ttgctcttta
gacctagcat cagcaataga tttcaaagat aagtattaag cgctacccta aagtgtgtaa
gtttttcatt ttgtcatatt gaaaaatgat ttgcatagta ctgaatgttg acacacagct
                                                                   11640
tatatgtatt tacaagaata tetttaagtg tttttttgae acattaaaat aaaggaaata
                                                                   11700
aggaaattgt aagctttatt tggattttta aatacatttt taaaatttca gatgtaattt
                                                                   11760
                                                                  11820
aacatcacat ttgtttttca ggtattgagt ttagatgcct acttttatga gtaccatcag
                                                                  11880
ctggacacag tgtctcatac ctgtatttgc agcactttgg gaggctgaag cagatcgctg
gagettatga gttegagaee ageetggaea acatagtgaa acaetgtete tgeaaaaaat
                                                                   11940
                                                                  12000
acaaaaatta gctgggtatg gtggtaagtg cctgtagtcc tagctacttg ggaggctgag
atgggaggat gtcttgagcc cgggaggtgg aggttgcaat gagccaagat tgtaccactg
                                                                  12060
                                                                  12120
cattccaacc tgggcgacag agccagacct tgtctcaaaa aaaaaaaaa aaaaagaaaa
                                                                   12174
aagaaagtac tgtctgtctt aaattttgct gcaaataaaa atgtactttg gatt
<210> 12856
<211> 1284
<212> DNA
<213> Homo sapiens
<400> 12856
                                                                     60
taattaattt ttttttttt ttttttgta gagacagtgt ctcactatgt tgcccaagct
                                                                     120
ggtcttgaac tcctgagttc aagagatcct cctgccttag cctcccaaag tgctgggatt
                                                                     180
acaagcataa gcaccacacc tggctgaaca tcagatattt taaagtgtag cccagagtct
                                                                     240
agttggtaaa tgttacttat attgggacta gtattttcta atgtttctgg gatatgctcc
                                                                     300
ctataaaatg aaatgttttc ctggaacaat gctaattagg attgcattcc tggccaaaga
                                                                     360
catgacatca aataagtaat agacatcacc agcaatgaat tttgaaaaagc aaaaaatact
                                                                     420
attaacctat ataaccattt aaaatttaaa aaattatgtt ccaagtacct ctattttctg
                                                                     480
agctagaaga aaccttagag gccatctgat gatagattcc cagagctgga tggatcccta
                                                                     540
gggactacct aatctgactt tctgtccact gcatggattc ttctaaaaag tatgtcactt
```

```
600
atttccctac cttattaaga ctaaataagt ggaacatcat agagctcttt atttataaca
gtcattcttt gatagtcaac tcttaaatgg agacttgaga tgcttaaata ttgtactact
                                                                     660
gtgcttatct tgtaaagatt tcataaaatg atagtattgg ttattttaaa aaggctttgg
                                                                     720
                                                                     780
cttatgctga attatacatg tagcaccaaa atgttacaac tctactaaat ttccttgttc
                                                                     840
taaactatta tattagctat aataaatatt agtcatacat gtaacatgtt taatgacaaa
                                                                     900
taactttctt tatctccttg gaattaaaga gggcttttaa aagataattt gactgatcca
tgcttcttac agtgtggagc tttgcaatga tgatttttta aatatgtttt tcttgtgata
                                                                     960
                                                                    1020
aacaggtatt ttttaaaatc tgctgggtgt ggtgactggt acctgtaatc ccagcacttt
gggaggctga agcgggagga tcacttgagc ccgtgagttt gacaccagcc tgggcaatat
                                                                    1080
agtgagacct tgtctctaca agaaattaaa aaactagctg agcatcatgg tgtgtacctg
                                                                    1140
tagtcccagc tactcaggag gctgaggtgg gaggatcgct tgagtctagg aggcagaggt
                                                                    1200
tgcagtgagc caagattgtg ccactgtact ccagcctgag tgacagaaca agaccctgtc
                                                                    1260
                                                                    1284
tcaaaaaaaa aaaaaaaaa tcca
<210> 12857
<211> 15024
<212> DNA
<213> Homo sapiens
<400> 12857
                                                                      60
aggctgcaga gaaggaagca gcccttgtgc agcaagaaga agaaaaggct gaacaacgga
                                                                     120
aaagagctcg ggctgagaag aaagcgttaa aaaagaagaa aaagatcaga ggcccagaga
                                                                     180
aqcqcqqaqc aqatqaggat gatgagaaag agtggggcga tgatgaagaa ggtaaggagc
                                                                     240
tcttgagaaa ttgtgttttg aaacgtctta aagttagaga agttgcgaat acagtatgaa
                                                                     300
qaactttctt ccctgaaccg ttaccagctt gatacccatt accctttgat cactgttagg
gtgtatgtct tgcaaacaag gggccctctt ctacatgact agaatgcagc catcagagcc
                                                                     360
ggggttagca atgagctatg ggttcccatt tatcctgata atgtcctttg tagtgaaagg
                                                                     420
atcoggttca ggatgcacta ttgtgtttag ttgtcctgtc tcctggatct ccttgagtct
                                                                     480
ggagcactcc tcagcttttt ttttttactc tgatgacctg cagtcttgta agggggcagg
                                                                     540
                                                                     600
ccagttgctg tgttgtgccc ctcagcctgg gtgtgtctga tgctccctaa gcattggatt
                                                                     660
ccactcatgc atctcgggca ggaatagtgc acaagtgctc ctgtggcctg cccattgagt
                                                                     720
cccatcaggt ggactgtgat tcgctttgtt ccatcactgg tgatgaccct tttgagaatt
                                                                     780
atttatgctg attctctact tatcccaggt ttggctagca agagttcctt cacacaggct
tctatgtccc tttgacctgt ccccttgttc tttgatcatt tccttacctt ctagcacaca
                                                                     840
                                                                     900
atacccaagg gtcatcttat actttccata actcagccct ggaatccatc atttctccaa
                                                                     960
ggttcctttg agtgatgagt ggtatttaga aggtgctagt tgtgctcact gctgttggtt
                                                                    1020
attgttctga ggcctgagtg gtcgagggta gggagtgtgt gtgtgtgtgc gtgtgcgtgt
                                                                    1080
gcatgtgtac acatatttat gaccatattt acttgtgtaa ctatttgtat atactgaaag
tcatgatttc acaccaatac ctccagttcc ggtctaacac cacagggttc cccttcacac
                                                                    1140
1200
ctcgctttgt tgcccaggct ggagtgcagt ggggtgatct tggctcactt caacctccgc
                                                                    1260
ttcccgggtt caagtgattc ttgtgcctca gcctctcaag tagctgggat tacaggcatg
                                                                    1320
                                                                    1380
caccatcata cctggctaat tttttgtatt tttagtagag atcaggtttc gccatgttgg
                                                                    1440
ccaggctggt cttgaacttg tggcctcaag tgatctgtct gcctcggcct cccaaagtgc
tgggattaca ggtgtgagcc actgtgccca gctgtgtcac gcccttctct gaccttgaga
                                                                    1500
aacttggctc cctctattct cagcatcctc agttactcca cccggcccct gtaggtatgt
                                                                    1560
aatcaacttc ctgtgcctgc ctccccttct catatgtgcc atccccaccc tgtttggtct
                                                                    1620
cccacacccg gggccaggca cggccctgca tggacaccct tgcttctttc actcaggctt
                                                                    1680
                                                                    1740
ccagatctag gctgctgggt ccctgtcact gccccatgcc tgcctgtctt cttccttcca
                                                                    1800
ttcaggctct agcatcccgc accactgctg cagccccaac cctgcacaga cctgccaggc
ttggccctac ttttttttt ttttttttt gagagggagt ctcgctctgt cgcccaggct
                                                                    1860
ggagtgcagt tgcgtgatct cggctcactg caacctccgc ctcctgggtt caagtgattc
                                                                    1920
tcttccttca gccttccaag tagctgggat tacactttgc cagccaccat gcccagctaa
                                                                    1980
tttttgtatt ttagtagaga cggggtttca ccatgttagc caggctggtc ttgaactcct
                                                                    2040
gacctcaagt gatcctcccg ccttggcctc ccaaagtgct gttattacag gcatgagaca
                                                                    2100
ctgcacctgg ccttggccct gcttttaatg gttctgactt agtggaattt tccagcagtg
                                                                    2160
                                                                    2220
tttctttcac ccttgtaatt tcagggacgg gcagctctgg gtcatattta tttcagagag
tcagtcaagg taaagaattg tctctggtgg ctgggcgcgg tagctcatgc ctgtaatccc
                                                                    2280
agcactctgg gaggctgagg tgggcggatc acctgaggtc aggggtcaag atcaacctgg
                                                                    2340
ccaacatggt gaaaacctgc ctctactaaa aatacaaaaa ttagttggct gtggtggcgg
```

2400

2460 gtgcctgttt tcccagctac tcgggaggct gagacaggag aattacttga gcccgggagg 2520 cagaggttgc aatgagtaga gatcatgtcg ttgcactcca gcctgggaga gagagcaaga cactgtctca aaaacaaaac aaaacaaaaa aaagaattgt ctctggactt gaaaggactc 2580 tgtatacttt cttaatacag atgtgtgagc cagagagaac tgggaatgga gtcatccatc 2640 2700 gttgagttga ccttgcttgc acaccttgtt tgggctttcc taaatgactg aggatggctc 2760 attgctccac tggcctccca gtttggcaga ataaggcaaa tgtgatgtgt gaccgcagtg 2820 gtgtgtgatc agggcatggc gtgtgatcag gactgtggga gatggcattg ttaatactgg 2880 tggaggccaa agaaggcact agtgggtcaa cttcgtacca ggaagactgt gggggaagag 2940 atgcggcatc cagggggaag accgagtgac tgtggcagcg agaagggaag gtctgagcta 3000 cacagggagg agccaatgtt agtacagcct gaaggcacag cacagcctgg cattttctgt 3060 gagcagcaga taattgggtt tgaactcaga tgcattagag aggggtgggg cagtggtcga 3120 ggaggctgga gtggtaggtg ggccagtcag ctggacccag cccagggaca ctcttgaata 3180 cagtagcagt gtgcagggct tacgttgcat tggaaaggca gcgggtgaac tgatggggag 3240 gtctgtttgc cggaggctga tgtctgttga gcttcagtac tggccctctg gaggcagtgg 3300 tgaggacaga ctgcagtaga agattgtggt taagctctct taaggacaca aggccatatt 3360 gaaagtgttt tagaaaccac agatcctttg tagtgctttc caaaatgtgc tccctggggc 3420 acgggtatca gtcactaggg tgcttttcca gtgcagattc tcatgtccta tcccaaccct 3480 gctgatctgg gctttgtagg agaggggccc tggaatttgc cttctgaact ttgagatcca 3540 ctgacctttt gtataattaa gagtggacaa tggggattta tgttattact tccacttgat 3600 tgagcccact tacccgagtg taattggggc acagaaagtc gtgggacagg tcaggcggat cacaaaagac ttctcggggt ggtgcttgcc cctccgagtc tggtgaggga gtaagtgtca 3660 catgcagctg tcacagcact ttcacttcac acctctgttc aagctccctg aagagaagta 3720 acagttaacc atggctactt ttcttttgaa aacctgtaga gcagccttcc aaacgcagaa 3780 3840 gggtcgagaa cagcatccct gcagctggag aaacacaaaa tgtagaagta gcagcagggc 3900 ccgctgggaa atgtgctgcc gtagatgtgg agcccccttc gaagcagaag gagaaggcag cctcctgaa gagggacatg cccaaggtgc tgcacgacag cagcaaggac agcatcaccg 3960 4020 tctttgtcag caacctgccc tacagcatgc aggagccgga cacgaagctc aggccactct 4080 tcgaggcctg tggggaggtg gtccagatcc gacccatctt cagcaaccgt ggggatttcc 4140 gaggttactg ctacgtggag tttaaagaag agaaatcagc ccttcaggca ctggagatgg accggaaaag tgtagaaggg aggccaatgt ttgtttcccc ctgtgtggat aagagcaaaa 4200 4260 accocgattt taaggtaggt ttatggaaaa aaagaatgcc tttcatctgt ggttgcttta gacaggcact ttcttcctgc agcagtgata tttaggatag acatggaagt tttacgctct 4320 4380 gtttggatct aaacttcctt gtgagccaag gtccatcctg agccggttga ctgaggtctg 4440 actcatggca tggctccttc ttgctgggtg cttagcaatg acaagggact gtgctgaatg ctttatgtgt gtcagctcat tgactcctca tgagactctg tgaatggtta cttttattct 4500 tgccgtttta cagaggaaga catggaggcc tggagaggtt aagtgactcg ctccggtggc 4560 cccattaaca agtttcagag catggcttgg ctctagtctg cctggctggg ctgctcatgg 4620 ggacaaggct ggtgtcagag gagtcaggtg agctgggtca tgcctcgaat catggttttt 4680 ctctgtcttc cttcttccta taggtgttca ggtacagcac ttccctagag aaacacaagc 4740 4800 tgttcatctc aggcctgcct ttctcctgta ctaaagagga actagaagaa atctgtaagg ctcatggcac cgtgaaggac ctcaggctgg tcaccaaccg ggctggcaaa ccaaaggtca 4860 4920 gagtcagagc agattgtgcc ttgtcttcaa ggcttgggca aacttcgttt ctgtatcggt 4980 tcaaagatga tttaacctct agaatgggtt cctagtttgt ctgctgagaa acaaaagtta 5040 atttcacaga aagatctgca cttagctcta cttatatttg gagtcagatt aacctgtttg 5100 tagttaattg tactaaaaag aataagacac ttggaaatag aggatcatga attcaccaca ctatggcccc tggctgtggg gcttggggga agccctgtga ccagcagcat acgggctttg 5160 gggtgggcgc cctcctgcag ccttctccct ctgtcccagg cctctctttc tctggggcct 5220 ccaaccaggc cccttgagtc cctccattgc agtgcctctt ctcctgtctt tccttcttgc 5280 cccctcagtc tcctgctaag tccttttgtg ccccattttg agtagtaagt ggtttcatta 5340 5400 ctgtctaccc actgcccact ctccctcccc tttatccagg ttaatggaga gaaaaagagg 5460 atgaaatgag ggagcgggtg aaggcacaga aacacgaggg ctcacctggg cacctgggct 5520 gctggccctg tgtcccatcc acctcttggt ttatttgctg gatttatact ggtccatctg 5580 tetttteet tettette taettetgea geaegtaeaa ggtgtgetga aettggaagg 5640 gttatctgaa gttacagtgc atagcagcac tcgggaagga gagtagggtg gggaaataag 5700 cctgtagaca gaggatgcgg tggtggggaa ggtaacctgt tggtgggtcg tttgctgtgg 5760 cctggtctgc tggtctccgg gaggaagccc agtgcctgcc ctgcaggagg aggttgcgtc 5820 cctagtctgc gggatctgac ttggttctgg atcttgcctc ttccagggcc tggcctacgt 5880 ggagtatgaa aatgaatccc aggcgtcgca ggctgtgatg aagatggacg gcatgactat 5940 caaagagaac atcatcaaag tggcaatcag caaccctcct cagaggaaag ttccagagaa 6000 gccggagacc aggaaggcac caggtggccc catgcttttg ccgcagacat acggagcgta 6060 agtgcttgca tggtagacta gtgcaaactt cgtcctggct ggcaccagtt catggatcac

6120 ggggggatta accegggatg aattagette etgttaggae agaaaageea agatgtgetg 6180 ttccttgtgg taatcactgt ggttccactg gagcaaggcg tccagagcag gatgcaagcc 6240 taggcagtga cctctgcctg gtactggcca atttacactt gtcatttatt tcagacagaa ataaggcagt gattatttta aagtcccctt tgccagttgg atctgtgtgt ttacaaagaa 6300 atctcatacc catgtgtgtg ccagtctacg gccctagcta tgatccacat aagctgtgct 6360 gttcgctggt ttgggatgag gaggagatag cagaattgcc aggtgactgg tgaggtctga 6420 6480 gaggtgatag tcacactgat cccctctgag tgtgactggt gctcagggtt gatctttgcc aaaactgaac aaggccaagt ctgttgaagc agtttttact tcataaacag aattaaggag 6540 6600 gcagggatta tcttatcctt ttttttttc accttttaac ttctggttat attaaaactg tcttggctta ttttcacaaa taaatgaggg gccacgaatt gttgcttcaa aaggtccatt 6660 cagtgtttgc tcttttagga gggggaaggg aaggacgcag ctgtctctac tgcctcgtgc 6720 6780 cctgcagcgc ccaagtgctg cagctcctca ggctgagaac ggccctgccg cggctcctgc 6840 agttgccgcc ccagcagcca ccgaggcacc caagatgtcc aatgccgatt ttgccaagct 6900 gtttctgaga aagtgaacgg gacgctggga gacaggaaat gccttacttc actctggccc 6960 ggcggacctc ccaccacca gcagtgcact ggggatggac aggcctggtg tgctgcgtgc 7020 tcgcaaccac agatggctcc tcggctttag acagaaaggg gaaggggttc taagtcaaga 7080 gcctttcagt gctccctcat attgagggca gtggcagaaa agtgaccact ctgcaggctg 7140 ggcccaggat gtggtgtcct gagatagttt tgtatcttaa agactgaggc acagaagcga aacgagaaca cactgttttt gagacacagt tgtccaaatg tttctggcca gctccggccc 7200 7260 ctttttgtat gacacttctc ttccaccctg cacagcacat gtgcccgtca ttcttttaat 7320 tttaaaagat gaaatggcag atgctagtaa ttcacagaat ggcctcttgt gggggtgggt ctgagggaag tcagctataa aacatttgct ggagttttgt tcaatggggc tgtgcatttt 7380 tatattatgt gtttgtaaat gacatgtcag ccattgtttc atgtttccta aaagcagaat 7440 7500 atttgcaaca tttgttttgt ataggaatta tttgtgccac ctgctgtgga ctgttttctt tgcctagtga ctagtgacct gtgttgtcta aacatgagtt tcagcccttt ggttttgttt 7560 7620 aataccatgt caaatgcaaa cttcaattct ccccatttag ctttattaaa ctgacgttct 7680 cttcaaaact tcttgctgaa tggtactcag atgtgcattc acatacagat gtgttttgaa gtgggtgtac cttgctttac ctaatagatg tgtaaataga acttttgtaa gtcaaatccc 7740 7800 attgtcactt tgatttaaat tattccagct gtgatgtgtc ttcattttat agcagtttga 7860 cactggaget tttgagettt tttaceteac atettttate aaataatatt tactgetttg 7920 aaaacagcaa cagcattggc cagttcagta ggggaagctt gctttattaa gacactctgg 7980 agaaagacgt cagggaatcc ttgtatatgt cgtgggaatc aactcctcat ttatctgttg 8040 cgtaagttta agtttttgtg catcagtcgg gttttctata tttttttaac ttaacatttt 8100 ttaatataac cgattaaaaa gtagacagaa cagtaaaata aactcctgtg tgcctaccat tcagcttcca gcattcctca actcccagcc cctcttcctt catgtctgtt tcccctccac 8160 cctctgttat attgaggcac gttccagatg tcattgtgct catccagtaa tgttgcggca 8220 ggtgtctcag gaggactgaa aggccttcac tcctagaaac attagtggta atcccttcat 8280 gtcatcaact gtccactcaa atttccacct tcctacaaat atcagctctc ctccctgtaa 8340 8400 attattggtt ggtaagcctc ttaagtctta aaaggtaggt tcccctccat ctcttttta 8460 tacaaaacca actttttact aggetttact tetgaattaa atteaagegg eggetattga 8520 cagcagcaag aacctttgct gtcccacgcg ttcctcctgc agtgttctct gtgatgctgc 8580 ttggaaggct gatggactgt tcagctggtg tgatgatttg ggtagctcag agccctcatg 8640 gttggggacc tgacacatga agagccctga atatcactat gggtgagtgt ggccttactt 8700 tttgctgctt cacattaacg gtttggcttt gcctgcagcc agtattctga ccttaatgtc 8760 acacttgcag atgtcagccc aggcttggta caggggcaaa ccttttcagg cttgagcaga 8820 acccagttag gttccgggtg ttgactgttc tagaaatgga tttccaggac tacatgagtg 8880 ggtttgtgtg ttttccccag aaaatccaga actgatgata aatagaaatg tgaaaaacta 8940 cttcagttac ttgactgttt gttagtaaaa aaaaatcagt aattcatcct tgcccaccta 9000 ggtaggcggt ttatccaact tctgggtctc ttgcccatgg aaatcaccat cttggatctg 9060 ttgctctccc agaacagtat tatgaatagg gctaaaggtc agaatacccc cactgccctt 9120 atgacagatg ggaacatctc ccaaataaga cagtctcaag cattcatgta ataaaataac 9180 tttattagaa tcaggaattt gttaaaataa tatccttcac atatagctaa agtgcaaatt 9240 ctcttgctct gtagtagaag caagcacatc tgtcagacct ccgtggtgtg cttataaaac 9300 caagacgaga agagttttaa gaagtacctc tggcagcata agagtacgaa aacacatttt 9360 ataaaggttt gaacaattat catttggagc catttcatat atcgtgtatg tcttttcact 9420 tatttttctt aacctttcaa aaactactct gtgctattta tacaactgaa gaactgtata 9480 aactacttta gagcagtggc ctcattactg tcaggaacgg aattaccaaa tcaaagagac 9540 aacactgcgt attcgccatc actcacacac tgacaaagtg cagtagtgtt agacatcatg 9600 ggctctgtca ctgggaaagg gacccagtga cttccacctc tctgactcta aatagcagca 9660 gtcatattgg cacctgtacc atatgattca aagagaagat tctacttcca ttggatgaca gcttggaaac ccggccatat tacatagagc actacatcat ttcacaagtt gcgagaaaaa 9720

9780 taaggccact ccgaggcaat ctcttctgcc tcccaggggg atgggacacg ggacagtgca 9840 aagaccgtgg aagatggcag taagtagatg aaactccagg accaaaggga tgcagcctgg ccatggctga aggtttttgc tccattcagt agaaactggt gctctaattc attatcaaaa 9900 atgcttactt ggtgtccaca tggcacttgt tttctcaggt taacatctgc ctacagaaaa 9960 ctcaggcaga ggggtgaggg cagatgccta ctagcataac acctggtttg cagcacgata 10020 10080 caggtggaat gacaagccca gagaatttca gacgaaaaca tctggcctga gttgctacaa 10140 atgaagtgtg agagaaacgc ggatacacaa agaaaaccaa actgcccgcc caccatgttt cccctccaa catacagctc tttatggcta ccccctattc ttaattagaa aaatagtctc aatatgaaaa aaaaaaaaa aaaacagct gctggcacta aagtttgcaa actatggctc 10320 aaaaagtctt cctgcaggta agtaaggaat gtcggcattc attttctctt ctatgaagtt tgcttggaag ttagtcacca ctaatctaaa ccttgagaaa gtgagctttc aaccatttct 10380 10440 ctcagctgcg acttgggtct gacttcccag ttgcagtcac agaacctctc agcctgtttc agagaagcac ttggaggagt tatgtcagtg gctctgggcc ccgtcccaca cctcttggcc 10560 gctcctccac cttagtgcaa attctgctcc agaacctttg ttctggtcac atggtggcac 10620 tgttgcccct aaagcacggc caccagcaag acacagcaga caccatacaa tactgactag 10680 cttgctccaa agaagaaaat aaatagcttg gttgaattat aagttatttt agagacaagg 10740 cttcataact tagttttttt tttttttaa aactaaaaca tttggaggta aagaatgttt 10800 ctccttttgc tttaggaagt gactaggttt ctagaaatgc tgtttctttt ttttttcct 10860 acctcaggac agcctttgtc actgaggatt tctagggtta gggcttcaca ggaagcgtct 10920 ccttgaaccc agagtggttg ggttgggctt ctggcagtgc caccgagtac tcagttgtgg caaaaagcag ggtgtccagg gtggtctcag tacacttggc gatgaagcga atgaaaggcc 10980 11040 tcacgtcgcc ctcgttggca gcttccaaca cgtggtagta gtcggaccgc tgctccttgc 11100 ggatggtgat gggcgggtag cccgcctgca tgaggatgag gttcatgagc agacgggagg tcctcccgtt gccatcaatg aaagggtgga tgtaaacgag tttataatgg gctaaggctg 11160 11220 caaactccac tgggtgcagg ttcatggctt cctcggagtt gagccactgt acaaactcct gcatctgctt ttccacatcc tgcggatggg gagggatgtg gtgtccgacc aggacctgtg 11280 11340 ttgtccgaaa cctgccggct tccacggggt ccacgtagcc cagcacccgc ctgtggatct 11400 ccagcacgtc gctgatggtg acggagccga tgcgcgaaac cagagtcgtg ttgatgtact 11460 tcatggctgc atgcatgcct atgacctcgt tctgctcctc caggctcttc ccgggcacgg cgtagcgggt ctccaggatg tgcctgattt ccgagagggt gagggtgttg ccctcgatgg ccactgtgtg gtagatgtga tggtagtagg tctcctccat gaccctgcgc agagctgagt tccccttggg gatggacatg accttcttca ctttgctgtc gatgatgctg aaatacctct ggtcgatctc ttccacaaga ggcagtgtcc gatcgcggtt gaccagtgct ttctcatggt agggtgagat ggtcaatgct ctggtgtaca agtagtccgc ctggatgatg tccttgtctt cttccgagaa gatgccaaac tcggtgagcg cgtccacgaa gtccgggtcc atcttgaggg 11820 cgtgcatgaa gagcttttgg gctttttccc gcttgccctg gcgcttcatc tccagggcct 11880 11940 ggttcagggc agctctggct tccaacttac ccgctggaag agagccaaag aagcgctgtg 12000 agggagggag gctagggggc agaggacatt cggggggctg tcccctgtgc tggtctccgc 12060 aggaaaccat gatgaccage ctgtgtccct ggccttgagg agcttgttgc agccgcatcg 12120 tgtgtactca acatgcccgg taccactctg ttgccccagc cgtgtggtgg tatgcagtca ctatccgtgt gtccccagag ccactctctt gtattctggg aggcacctcc ttggcttcct 12180 agectectge tttctggaca tagaaagtte taggcattta ettegeetgg gecetetetg ctgggccttt cctgtgggcc acagctccca gtgtaggccg tctcctacat ctccagctca 12360 tettgtgetg gtgacaeagg tteetgeece gggaggeeca aaggegttaa caacteecea ctcttcctag accctggggg cgtcaaccat cccgggactg ttctttaact cttttaaccc 12420 agtggtttga ttgtgcgccc caggggacat ttggtgacgt ctggagacct ggttagttgt 12480 cataactgag gaggtggagg gagtgctaca ggcatctcat ggggagaggc cagggatgcc accaccatct aacaatgcac tttcagtccc caccacagag aactggtgga ggtggggagc 12600 ctgctctagc cctagccctc ctgtcctggc ccctcttggc cacctgagga tcagccccac acattcaact teetttagtt eetegaatge eeceaggete tettaegaca gttatgteag 12720 ttatgacaac taacctctgg tctctgcctg gagtcctttt ccttggatgc ccttcaccct ggatgactcc tacttaacaa ctgggtccca gctcaggtgt cacttcctcc agggagcctt 12840 cctggtatgc tcctacagcc ctttatgctt ccccatcacc acacttgtga cactgtctca 12900 12960 gtcacatcac cttgtctata ctaggagctc agggctgact tgttcacaat accccgatgc 13020 cccacataca ggacatgaca cattctatgt ctgtctatcc agttaacaag cattgaggaa gacggccagt ctgtcttacc tggagaggcc ttggtcttgg ccaccagcag cgtcgccc ctggaggtga tgctgagctc cgtggacggg ctggtgcact tggtggcggc atgctgcgcc 13200 ctgtccggtt tgctcctgag caggtagagg cctttgagca cagccaagca ctgctcctcc acageceeca geggeageag cagggeeage agggaeeeca geaceatget cageagegte 13260 acccagagga agcggctcca gaccgagacc catttcggtt cagtcaccgc catcactgaa 13320 13380 gccattggta tgagcatcat ctggactcag gagagggccc tttgcgcatg tccacaggcg

```
gctgagagag agcaggatct gcaaggagcc aagagtcgca ggagaaacag acacgttcag
                                                                  13440
gacatagtgt gacttcagct gggaagatgg gtttggagac ttctgctctt ttagctcact
                                                                  13500
agagagatgg ggtgggggca agtcaaggac tggatctcac tagaggaggg gccagcctag
                                                                  13560
aaggactggt gccacctcct gggcagtatg aatgtgaaaa cactgctgtg gtccaacaat
                                                                  13620
taatgagcac ttgccataat ccaggccgtg tgctaagcac caaatgcctc acatgggtca
                                                                  13680
cctcctgcaa tcttcaacga cttgagctga tgttttcacc cttctccagg tgagggaact
gaggttcaga gaggtgaagt cccttgccga aagtctcgcc gggagcaagt gacagcctta 13800
ggacttgaac tcaggaaccc cacggctcta aagtgtcccc ccttcccata tatccctgtg
gcttctgacc acaaacactg gatttgtgga catatgtcaa acatttggga cataaatgac
tgacagacac ccaggcagat cagccacagc agttctgacg cccaatcttt gataagcaca
                                                                  14040
attgttgggt ggcctcattt attgccctca ccctgatatt cagccacagc tcccacagtg
cccttcccct ctctggcctt ccatttctgg cctgtccaga agggacccca tcaagaagat
                                                                  14100
                                                                  14160
gagcagttcg agcatctcga aaggaactca ggctgtgggc cacagtgctt ggcctcagtg
acaacatggc ttgtatgtgc ttggggctgg cagtgggagt ggaggtgggg ccaggcatgc
                                                                  14220
                                                                  14280
aaacactatg ctaacaataa gcacttatta agcaactatg gtgtcctagg tgctgagcag
                                                                  14340
tgtactggcc acgcattgcc tcgtttcacc ctcatgccac cctatgaagg aagagctacc
                                                                  14400
gctagctcca ttttacagac aagggaaacc aagacacaga gagcataagt taaattccag
aaggcccaca ggaggtaaac agaggcatcc ggaaggaaac cccagggcct ctgaacccgg
                                                                  14460
                                                                  14520
tccccaggtc tcgatttcta ccttattact aagcagggcc tgtgcacctg ctctgggctg
gtcctgaccc gggaatgact gatggatcac ggggttctga gtctcatggg gatcctggcc
                                                                  14580
cattgccaca gaacatgtga aatggcttgg ggtgcgcttt aataggggtg cgcctggagt
                                                                  14640
14700
gtacaggaaa gggggcagtt cgccggtgcc aggggtgtgt gcagggaagg agtgcgttct
                                                                  14760
                                                                  14820
gggaggcgcg aatctctccc ccacacttcc ctagaaaggg agaactgagg cccggagagg
ggaggggacc ggtctgagtc ccctccaaga ctgcagagcc tcccttcccg aaccccgccc
                                                                  14880
                                                                  14940
agggetegeg geeeegtege accetteeeg getteateet etegageeee tagggetttt
                                                                  15000
ccccttctca ccgcgcgcag ctgtcagaac cccaaccgcc ttccccgcgc tcccagctcc
                                                                  15024
gggccgccgg ctcccgggtc ctcc
<210> 12858
<211> 33927
<212> DNA
<213> Homo sapiens
<400> 12858
                                                                     60
agttgtctat caacgtctat gactacaact gccatgtgga cttgatcaga ctgctcaggc
                                                                    120
tggaagggga gcttaccaag gtgaggatgg cccgccagaa gatgagtgaa atctttccct
                                                                    180
tgactgaagg taagcttcag cagtcaggct gcttttagaa acagaaacaa ggcttgcaca
                                                                    240
ttttttacaa tgttgaaagt gggacatgct ccttgtagaa aacctggaac gttcagtgta
gtggaaagaa gaaaacgcat cagagttagc tatttttagt ttattgtagt tttttgcaaa
                                                                    300
                                                                    360
atgtagttat gatcatataa cacggatttt gaattctgat ttctttattc taacgttgtg
                                                                    420
gtaaacattt gtaatgtaat taaacttggc tttcatttct gtatttccca tttcactatt
                                                                    480
tatgtattta aaccattctc ttgaaaccag aaaattgtaa atatattaa acttttacag
                                                                    540
acagtttttt atgtaaatgt ttcatacatt aattgttcca gaatagttgg gcatttaggt
                                                                    600
tatttctact tatttgctta ttagaaacat aattgcactg aacaactctg tagttcaatc
ttcatgaata ttaataagtg atctttgggc agtacttaga acactttggt cctagatccc
                                                                    660
                                                                    720
actctgcccc ttttcccttc tgcaaagcat aactgccgag tgtagatgct ggagtcaggt
                                                                    780
gacctagatt cattcctggc tacatctttt actagctgtg tgaccttaag caaattatgt
                                                                    840
aaacattcta agactcagtt tttctagcag ttaaatgatg gcaacagtag tttctgcatt
                                                                    900
gtaatgtatg acggtatagg atgagctatt ctacgtataa cacttaacac atgcctggca
                                                                    960
tgttgtcatc cttagataga tgtcattatt attagtgtta ctatcaccaa ccttacagga
                                                                   1020
ttgtgataaa gactgaatga gaaaagtgct ttgcaaaata taaaatgcct aacaggtgga
                                                                   1080
ggatattatg attttagtga tttgatctta tttggaagca taaaacctcc tatgtgctta
                                                                   1140
gttcaggttt taagaagtga atttctggaa acaacgccag gttgtgtaag atggatgaaa
                                                                    1200
cgtttgcatg ctgatgtctc ttggtaaagt ccctgcgctt agcctaccct ttggtattaa
                                                                    1260
tgcgggaagt atttttgtct cgtagagctc tggctggagt ggctgcatga cgagatcagc
atggcccagg atggcctgga cagagagcac gtgtatgacc tctttgagaa agccgtgaag
                                                                    1320
                                                                    1380
gattacattt gtaagttccc gtggactttt tttggatatc tggcaatgtc atatatatca
                                                                    1440
gtctgctgtt gaggactgta ttatgagatg ttgctaccca gaaaagggaa cgttagtttc
acaattagca agatttaagt tgagttgtct tatcattgtc tttggtcttt aattgaggaa
                                                                    1500
```

```
gtttaatttt aaaataaaag tggaagaagc acttgtagta agggaatgaa tacactcaca
                                                                    1560
ctcaggattt attgacagtg agaacttaca tggtatttcc actgatcttt tatacattca
                                                                    1620
                                                                    1680
ataggttttt agaggttttg gacaggatgc tttaaaaaaa aagattaaaa cattaaaaga
                                                                    1740
aaaccttttt attttgaagt aattatagag tcataggaag ttgcagaaat agtacagaga
                                                                    1800
agtettgtgt actecettea eccagtttee tecaatatet tgtttetgta atacaaaate
                                                                    1860
aaaaccagga aattgacctt ggaacaatgg gaaaaaaaaag acattttatt acatgtgtag
                                                                    1920
attcatctaa ccactgctgc agtccagata cagagctgtt ctgtccccac agagacctcc
                                                                    1980
ctcgcctgct ggtattgaca tcttaccagt gcaagtgaag tatagaagac tcacctccct
ttaagtctct ttaccgtccc ttgtatatag tataattgtc ttaaatattt tctccatgtg
                                                                    2040
aattggggac cacatcagac aatgctgtgg acaaaatgct tttaaaaaagc gttttaaggc
                                                                    2100
                                                                    2160
tgggtgtggt ggctcacgcc tgtaatccca gaactttggg agaccaaggc tggtggatca
                                                                    2220
cttgaggtcg ggagttcaag accagcctgg ccaacatggc aaaaccccgt ctctgctaaa
                                                                    2280
aatacaaaaa ttagccaggc atggtggcac gtacctgtaa tctcagctac tcaagaggct
gaggcaggag aattgcttga acctgggaag tggaggttgc agcgagttga ggttgtgcta
                                                                    2340
                                                                    2400
ctacactcta gcctgggcaa cagagcaaga ttctgtctca aaaaaaagca ttttaaggcc
                                                                    2460
aggcatggtg gcttatgcct ataatcccag cagtttggga gactgaggca ggcggatccc
                                                                    2520
ttgagcccag gagttcgaaa tcagcctgcc caacatgggg aaaaccccat ctccactaaa
                                                                    2580
aatacaatta gccgggcggg gtggcatgca ggcctgtaat cccagctact caggtggctg
                                                                    2640
aggcatgaaa attgcttgaa cccaggaggc ggaggttgca gtgggccgag attgtgccac
                                                                    2700
2760
aaaaaatttc ccctttcaga ctgggcatag tggctcacgc ctgtaatccc agaactttgg
                                                                    2820
gaggctgagg caggtatatc acgagttcag gagattgaga ccatcctggc tatcacggtg
                                                                    2880
aaaccccatc tctactaaaa atacaaaaaa ctagctaggc gtggtggcat gctcctgttg
                                                                    2940
tcccagctac ttgggaggct gaggcaggag aattgcttga acccaggagg tagagggtgc
                                                                    3000
agtgagccgt gatcatgcct ctgcacgcta gcctgggcga cagaacgaga ctgtgtctca
                                                                    3060
acaaacaaac aatttcccct ttcagatttc gtaccctctt ccttgttgat ttcccaatgg
                                                                    3120
qaqcaqtccc cctgtgagaa gcattgctac taaccagata gactgttctg agatgataga
                                                                    3180
gaattttttg tgtatcttta caagccaaga agaattcaca gttttttggt ttataatctg
aataatgaaa ataagcggtg ttttatgaat ataaaactat attatatgtg tgttttttt
                                                                    3240
                                                                    3300
tttttttttg agagagagtc ttactctttc gcttaggctg gagtgcagtg gtgtgatctc
                                                                    3360
ggctcactgc aacctcccc ctacccaggt tcaagcgatt ctcctgcctc agcctcctga
                                                                    3420
gtagctggga ctacaggtgc ctgccacaac gcctggctaa tttttctatt tttagtagag
acggggtttc accatattgg ccaggctggt ttcgatctcc tgaccttgtg gtcctcccac
                                                                    3480
gtcagtctcc caaagtgctg ggattacagg cgtgagccac cgcacctggc caaatgtgtt
                                                                    3540
tttaaaaact atacctgtat ctctgctctg tggcccatga gtcttctttt agagccactg
                                                                    3600
ataattttag cagtgcatgg tgttcccatg atttctgatg atcctgttac ccccttctta
                                                                    3660
ctctctcaca qqcattqtta atagcaccat ttatcttttt ctgaggatct atggtcttcc
                                                                    3720
                                                                    3780
ccagactgta atgttttta gtcctttatg gtcatctctg ctgttaggcc ttcactgtca
tttagtgctg ctgtctgagt acttttttgg taggcacatt tcgtttgtta tgcatcagtt
                                                                    3840
                                                                    3900
ttgatatttg ggtattttat atcccaaact aattgaacac ttcttatttt taggtcctaa
catttggcta gagtatggcc agtactcagt tggtgggatt ggtcagaaag gtggccttga
                                                                    3960
                                                                    4020
gaaagttcgc tccgtgtttg aaagggctct ctcgtctgtt ggtttacata tgaccaaagg
actegeete tgggaggett accgagagtt tgaaagtgeg attgtggaag etgetegggt
                                                                    4080
                                                                    4140
gagtacctgt ggttgtctct gaacgggttg gggctgtctt tgtaagtctc cttggaagga
ttattttgaa acacatgtcc atgatgaatc ttgcagttca tatagttaac aaaatggtct
                                                                    4200
ttgccaatcc cttagtggtg gggtgataga taaccttttt ttatacccct tctagcattt
                                                                    4260
ggtacaatat gtatggaaga ggtcgtataa atttttttag cttgaactga aaatttgttg
                                                                    4320
agatattttt tgaagtagaa agaaccagag ttggccaagt gcggtggctc atgcttgtaa
                                                                    4380
                                                                    4440
ttccagcagt ttgggaggct gaggccagag gatcacttga gttcaggagt acaagaccag
cctgggcaat gtagtgagtc cccatctcta caagaactaa aacattagct gggcatgatg
                                                                    4500
gcgtatgcct gtggtcctag ctactcagga ctctgaggtg ggaggattgc atgagcctgg
                                                                    4560
agtgtgaggc tgtagtgagt tgtgatcaca ccaccacact ccagccaggg tgacagcaag
                                                                    4620
aacccttctc aaaagaaaaa gaaagaacca cagtttgtca tttactacta atttgcttct
                                                                    4680
                                                                    4740
ttagcccgta gctggcttcc tttccccttt tgaccgggaa caaacctttg attcacagct
tgagaaagtc cacagtcttt tccggcgaca gttggcgatc ccactctatg gtaagagaaa
                                                                    4800
ctgacatgtc aacagccagc cctctatggt ttttaaaatg ctttggggaa caacatgtag
                                                                    4860
ttagaccttt cccaccatcc tgtgaggcag gtaaagctgg tgttcttact ctccttggat
                                                                    4920
                                                                    4980
attgtctctt tggatgaggt ccttggtaaa aacatcttga atgttagtgc ttaagagggt
                                                                    5040
tgtgagggtc agaggcagga ctggaagcca gactccctga ctcccaggtg agagctcttt
tctcctttga gacctagttg gaagggcaga gatagggtct ctgaaaggaa tagtgaatga
                                                                    5100
cacctgtatt ttttggggaa acttcattga acaagagttc cattataatc attttctctt
                                                                    5160
```

5220 cacaagtaac ctcttccata acagcaggaa ttttacatga gtttagatca ttcctctatg ggagggattt ggttcagaag tgcagttgat tggaagtact cataagtgag tttcttgggg 5280 5340 tttggtaaag agtttcctta tttggtaaat acattttggc aatctaagcc tttgagtctt 5400 tggagctatg agtgtgtgcg tgctgggagg atttttctga gtatgggaag agtttgtcat 5460 ggctgttgtg tttgttccct agacacgggc atgtgttgta catactcaga acctctgggc 5520 aactttactg gagcccacat gttatttctc ttcatggttt attggattta acaagttata 5580 aagtagtcgt ctaatcaaat ggttgggtat catgcagaaa acactagagc tgagccggct 5640 tgcagatttc acctaccagc gtgaaacaac ctagcataat gattagagtg cgaacttgag 5700 ccaqactqct tqqqttcaca gccttqctct accattaact gtagacgagc aactgaaccc tctgcttcag tttcctcaac tgcaaaatga ggatcacaat agactacctt gtagagtggg 5760 5820 atgactgaat gagttagtgg atgtgaagtg gtagaacata ggtaacactg ggtaagtgtt gttaaatcgt tgccactagt gtcattgact gattaattag ctgggagggt tgcctgggac 5880 5940 attgttttaa gacagattct acagacaggt ttgggctcag cagaaatcag aatttgatca 6000 gtaagagctg ccatgccaca gatgtgggag gggctagtgg cacctgagtc tcatggctta 6060 atctgtgttt gggttgataa agcccaatgg caagacccac ggggctgaat ccatctttca 6120 atagatatgg aggccacatt tgcagagtat gaagaatggt cagaagaccc aataccagag 6180 tcagtaattc agaactataa caaagcacta cagcagctgg agaaatataa accctatgaa 6240 gaagcactgg taagtgttgg cttcttttat agtaaacgtc tctctacaaa cctttccctg atggatagtt gcgagttaaa cagtatcttt aaaatgtttt attctgaaat atatagagtg 6300 6360 tataaatgta tacgtacagt ttacatacta ataataaagt gaacatccat gtacctacca 6420 cccaggttaa gaaatagaac attgccagta ccttagaagt ctcctatgtg cccctctccg 6480 attgcctcct cctccctctc ccgagaggta atcactttcc tgacttttgt gatgataatt 6540 cccttgcttt tctttatagt tttacaagct atgaaagtat ccttaattaa tatattgttt 6600 aattttgctt gcttttgaac ttttatatat tggaatcatg ctgtatattt tattttcatt 6660 gaacatgctt ttgggtttta ctcatgttgc taagtataac tccggtgcat ttgttttcac 6720 tgctgtaaag ttgtctgtgt actgcgatgt atttatccat gttgctggat agttgggtca 6780 tttccaggtt tttgctagga gaaggagcag cgccactctg aacattcttg tgtgtatctc 6840 cttgtacaca tgaaaaagag tttctctaga atacgtactt aggaatgact ttgctggatc atagggtgat gttaaagtgt tttccaggtt atcagtttgc actgctgtga gcagtatctg 6900 agagttctcg ttgcttgtgc caatcttgga tattggtcat acttaaattt tacttaattt 6960 gatgaatttg aaattgtagt tttaatttgt attttcttgg ttactaatga agttgagcat 7020 cttttcacgt ggattggcca ttcaaatttt tgtgcgtgtt aaagtgttca ggctgggcac 7080 7140 agtggcttat gcctataatc ccagcacttt gggaggccaa ggcgggagga ttgctggagc 7200 aaaaaaaaa aaaaaaagc cgggcttggt ggcatgtgtc tgtagtccca gcttctccag 7260 aggcgaaggt aggaggattg tttgagccca ggaggtcaag gctgcagtga gctgtaatca 7320 7380 tgccactgca ttgtcaccta agtgacaaag caaaacccta tttcttaaaa aaaagtctgg gccgggcggg gtggctcatg cctgtaatcc cagcactttc ggagcccaag gcaggtgaat 7440 7500 catgaggtca ggagtttgag accagcctgg ccaacatagt gaaaccccgt ctctactaaa 7560 aatacaaaaa attagctggg catggtggcg ggcgcctgta atcccagctg tttgggaggc tgaggcaggg gaatcgcttg aagccgggag gtggaggttg ctgtgagccg agatcgcacc 7620 7680 actgcactcc atccagcctg ggcaacagtg tgagactccg tctcaaaaaa aaaagtcttt 7740 gacccatttc ccttttgatg tatctttttt ctaattgatt tgtgggagtg ctttgtctta 7800 agtettattt taggetgtat gtgttgeaga tttteteece agttgtttgt etttteaett 7860 ctttttttt gagactggag tttcgctttc acccaggctg gagtgaagtg gcgtgatctc ggctcactgc aacttccgcc ccgccaggtt caagcgattc tcctgcctca gcctcccaat 7920 tagctgggat tataggccct tgtcaccaag ccccgctaat ttttgtattt ttagtagaga 7980 8040 eggggttteg ceatgttgge eaggetggte teatacteet gaceteaggt gatteacetg 8100 cctcagcctc ccaaagggct gggattacag gcgtgagtca ctgcaactgc cttttcactt 8160 ttttattttt taacagtgtc ttttgatgaa cagttcttag tgatcaatta gattaaaatt 8220 ctttcccttt tggttgtgct tttgttgtgc ttatttaaaa aatattccct acttagctct aatttcttct aaaagtttta tagttttctg tttcatattt aggccctcat ccacctggga 8280 8340 ttgatttttg agtggtatga gactgcgtct ggtttcattt ttccatatgg agaaccagtt gttctagtac tgagtttgat cattccttct tcccctcact gatgtgcagt gccacatctg 8400 tcatagatta gctgtccatt tatgtgtggg tctttcttct ggattttctg ttctgtccca 8460 ctggtttatg ttacactgtt gtaatgatga gagttataat gttttgctct tggatagggt 8520 gagtcccatc cacctttttc ctcttcaaga ggatcttggc ttttttttt tttttgcctt 8580 caatgcttcc atcggattta gaatcagctt ttctagttat atttttaaaa tcttttttt 8640 8700 tttaattgga attgcattga acctggagat caatttgggg aataatttac atcttccaat ctatgaacat atataggttt ctgctactta tatcttgtct ttctgtaaag ctttataata 8760 atattataaa tttgtccagt gtcttcaaca cttgaccttt agagtcccct gcaagggaga 8820

8880 tttgctggta acagattttc tgtgttcaaa aaggtctttg cttcccttct tgaaaattat 8940 tttcttaggc tatagaattc tagaccgaca acagcaaaag aattctagac ggacaatgtg 9000 tcctctcagc aattgattgt atctttctgt cttctgatgt ctgttgttgc tgttgagaag tcagcggttt gtataaatct tgcttcttca gaggtagtca cttttttgtc tgactgcttt 9060 taagatctca ttgatttggt ttgctgtcct ctaatttcac tgcagtaggt ccatgtgtgg 9120 actggcttga agttttttgg gcttcttgac tctttttttc tatctttctt tgccaacaat 9180 9240 aggattgtga aggtcagatt cttaatatac gtcaagccag caaaaggtta atgtttactt agettgecae ceteatttag attttgteet tagteettag tatttettgt ttetttgeca 9300 9360 9420 tggtacagtg tgtctgggta actaattctt cctcgttact ggaaatggag gccctgaaac atcccctttc tacatatgga gtctgtgtgt tctcttactc tcctgcactg cttcatcctt 9480 9540 tctttttcat gtgtaaatga tttgcatgta cctgtgcttc ccaaaacttc gatcattcaa 9600 ttatqtcatq gccatcagca aaatgtgcct gaagagaaaa catgtcgaat aagatttttt 9660 tctaaaaaga atttgattgt atgtctttgg atcattaaac attcagcaca gctgccttca 9720 tcttctgcat ttatctacat tcttccagga actgatattt ggaataagaa acctgaaata 9780 gcatcaggca ccaaaatttt ccagtttggt tgtattaact ctactcagta gcccaagaac 9840 atgacttctg gtttggaagg gtggttgaca gtggtcactg gcaaaggtgt tgctctttca ctcagttcct gattgatggg ctacttaatt ccctgtggtc taggaatgga tttagaaaag 9900 9960 agtttatgga gcctttgtag cgactgccat gaactggcac tttggaccag atgagaagac 10020 tcttgttttg ctcaagaagt tgtagaggcc atagtggagt ggttctgaga gtgaggattt 10080 ggcgattcat agttactgta gccagttttg ccaaaattta ttttatttgc agatgtgttg tgcttcctgc cagtaactaa attcaataca attttcctgt actccagttg caggcagagg 10140 caccaaggct ggcagaatat caagcatata tcgattttga gatgaaaatt ggcgatcctg 10200 10260 ctcgcattca gttgatcttt gagcgcgccc tggtcgagaa ctgccttgtc ccagacttat ggatccgtta cagtcagtac ctagtaagat cactgttcta atttcatttt atttttgcca 10320 10380 atttagaatc tacttaaaat cagtaagagt gccaggagtt tgttgcatac ggccctactc ttgcttttcc tccatctgct ttttctcctc tttgccaact cgtttagaaa gttttagtgt 10440 ttcaagttat ttaaaaatgg tcactaactg taagtaaaat gagcatattg tctgtgttga ggacttataa caacttgata tttttctttt aactttttat tatggcaaaa atgtaaacat ataaaagtag acagatcagt aaaatgaaac ttctgtaccc ctcacccagc ttcaacaatt 10620 agtaacattt atagetttag tttactttga tetgtagtet cacetacttg teeettetgt 10740 gttactttga agcaaatcca gaaatgatat ttcgttggta aatatttcag tatgtgtata 10800 taaaatattt cagtgtgtct gtataaaagg atccaaatga ggtctatcca gtagggttgg 10860 ctgacgtctt ttaaggctgt tttaacctgt aagttgctcc tctccttctc ctccactccc 10920 cttagtgatt tttttgttgt tgttgaggaa accaggtcac aagagatgtt tataaggaca tttctttcat cacttggtcg tgctggcaat gtcttgttga tggtgaatgc ttaataaagt 10980 gtaattteet aactetggaa ttetttatea taggategae aactgaaagt aaaggatttg 11040 11100 gttttatctg tacataaccg cgctattaga aactgcccct ggacagttgc cttatggagt cggtacctct tggccatgga gagacatgga gttgatcatc aagtaatttc tggtgcggat 11220 gtttttgtgg gagaacttct aagctatttg tcccaagtga aaaacagaga gcggtgacaa 11280 agtcattaca tcagtgttcc ctggggtttt ctttgggtta tggagtgtag tgacaaaaag ggctctgagt gagagatgaa ctggttatat ttgtggcttc ttagagcttt ttaacatgct 11340 aatattcatt gtattttcta agaagttgta gtgttttctc caaacttcct tgatctggaa 11400 11460 cttttcttgc agggcgtctt gtggaagaag ttttttctag aacacagtct gtagagtgct 11520 gtagcaactt ctgtcttcaa cattcctgtc tagctcattt cattctgttg catctattag 11580 tctttaaagt catgtagtgt tttatagtca gtagaatgta gtgactttct attagtttcc atttgaattg gtaacaaatc ctgacttttc tccaactcca gtaaccttcg agaaagcttt 11640 11700 gaatgccggc ttcatccagg ccactgatta tgtggagatt tggcaggcat accttgatta cctgaggaga agggttgatt tcaaacaagg tatttaagca catgtttttc actttagagc 11760 tgaacatgtt cttaatacaa cttttggcga gatgtcccag ttccccagat acattgtgat 11820 tgggcaaatg atgtagacta ggtattggtg actttttccc ccagaaatct tagcaatttc 11880 tgtctttaac aagtcatgat gtggattgta aagcaagaga gtaatcgttt atactggctc 11940 ctgccagcct ttttagtctt agctctcatt tctcctttca ggtcttttta tttatcctaa 12000 12060 atacttcttg aaataagtct gctgtgtttt agaaaaatct ttgtacctct gtgggatcct 12120 ttgccccttc atgtcccccc gaaaacaacc agaaaacccc taacttgtac ttgcacactc 12180 atgtcagctg tcacctcata caggtagcct ttagccattc tcttgtttgc ctgtgtcacc 12240 ccagctgggg gagactcccc cccacagcac cctgtgtttg cctttttcac cacgctgtcc atgctctatt ctgttcaaat ttctttctcc ccaactatgt gatgagggca ggaattggca 12300 12360 attitattic tgtgtccctt gcatgatgcc aggtacatag tgggtctcca ggcagtttca 12420 gcataggata aaaaataaaa caaagccagg ctatgtggtt tcctaaagcc tttttttgca 12480 ctttccgtta gactccagta aagagctgga ggagttgagg gccgccttta ctcgtgcctt

12540 ggagtatctg aagcaggagg tggaagagcg taagtatgcc ccagcctgtg gttttgccca gttgtatttc cttgtctgta ctatttcctg gttgatgtac cttttcagcc agcgactatc 12600 tqtctccaaq ttcctttcta attttactaa ttctgttttt gaaggtttca atgagagtgg 12660 tgatccaagc tgcgtgatta tgcagaactg ggctaggatt gaggtaaatg tttttgacac 12720 atctagcact ttcatccatc attgtttaat agcatcctat taaactttaa ttaaaattga 12780 gtcagaatcc cagataatgg cctaagctct ataaggattt atgttattac ctaggtaatg gtctaggctc cacaaggatt catgttattt acctagcttg acatatattt gtaaatatgt tggtgaaaat attagctccc agctagaagt tgtgcagtaa atgtttagat gctaggtatt cactcgttta cttctgtctc tgcctctttg cttcatttgt gagagcacag tgagcgtgta ctgtttgtca gcactgtact aggtgctgtg ggaataagac agataaaatt cctttgctag taaggcttct atctaatgta gaagacagat gatttgacaa gtaattagag gatatgatga cttgaatgtc attactgggt cagggacacc aaggtcagta agacacggaa cctcccttga tcagcaggta ggattgtaac aattctaatc atgttttctc ctcggaggga gcgtcagata 13260 gaagaaacta acatttgtca ggtagttttt atatgggatg cttatctttt aaccatttta 13320 13380 aagatgagaa aactgagaat tacaggttaa gtaatttgcc caagtcacag tttgtaagta 13440 ttagtagcag agtgtgcatt taatactaga tcagtctttt ttttttttt aacattgtct 13500 ctcaaacact tgtagttaag cttgataaaa ataaaaaacg tgactatcta gtactgtcga gtaagtaccg tgcgctccct ctctcggttc tcaggaaaca taggtagatt agcttgtggc 13560 13620 tgcagaaagg ctcaagtgtt tgggctgggt cgtttaccac tggagggagg cctggggaat gcccagggac atctgtaaca ctaatagttg tggggtgctt tttatgtgtg tctgttggaa 13680 13740 gtgtgttgta tgatgggtgt cgacgtcata aggttcaggt ctcctaacag cctgctgatg cactttaggc tcgactgtgc aataacatgc agaaagctcg ggaactctgg gatagcatca 13800 tgaccagagg aaatgccaag tacgccaaca tgtggctaga gtattacaac ctggaaaggt 13860 aactgatctc ggggtgggga gggaggcagt gcttgtcagc tgtgcacctg tcttcactcc 13920 tggctgactc ctaccagctt ggactagctc cttagaactg ggctgttttc tttcattctg 13980 14040 tctctttcag tagtgggtac atttttaatg ggcagggcta gagaaccaga catgatattt 14100 tgtgcctgga actcttatag ccatgcattt cttttaattt gtttttgtct tgatttttgg 14160 gcatgatatt ttatttgacc ttttggagct atttgttttt tatatttgct tttatagaaa agtagaaaat actaaaaagc taagagaaaa aaaactcaaa ttactgaccc agtcataacc 14220 atgacccatt ctttgagact tttctatgtt taaatttttt tgtaatgaaa atgcaattat 14280 14340 agcatgcatg tgttacaagc ctttaaaact atttgaacga aataagatag gcctaacaat atttataaca tggggaaaac ataaagaatg tgaccaactt ttcagtctgt cttgaacgtt 14400 14460 gttcattgca taacattgct acattgctgg gttttctttt ttgaagattt tttccctatt taaaaaaacac tgtgtgccca aattagaata tttacaaaaa tatgtgatag aaagcgacag tttcttttct tttttcgggg gaggtgggga gtctcactct gttgcccagg ctgaagtgca 14580 gtggtgcagt ctcagctgca accttgcctc ctgggttcga gcaattcttc tgcctcagcc 14640 tcttgagtag ctgggattac aggcgtgcac caccacact ggctaatttt tggatttttt 14700 ttttttttttttta gaagaggcac agtttcacca tgtaggtcat gctgacctca agtgatcctc ctacctcggc ctcccaaagt gtaggaatta caggcatgag ccaccatatc cggctaaacg tgacagtttc ttacaatccc accccagaga taaccactgt taaagcttgt tgaatatccc cctagatctg cagttcacaa tttttttggt ctcaggatcc attttccact cttaaaattg 14940 15000 gaggatccca aaaaactttt atgtatgtga gttatatcta ttgatattta taatttataa 15060 attgagaaat ctaaaaaaca ttttaattta tttaaatata acaaattatc taacattaat 15120 atcttttttg agcagtgact gttttccaga ccccaaaata atatagtgag aaaagtggca 15180 gtgttttcta tttttgcaaa tatatttatt tgcacattat tctgacctag gagaagacag ctaaattctc atgtctgtta ctgattctgt ctgttgtgat ctgttgtttt cattgaagag 15240 gttaggaaag aaaggtattt tagaagcatt ttcagataat tgtgggtatt cttctttcat 15300 acatattata gcaaaacttc agtgttgcat gtggaatctg aaaccatatt gacagagtct 15360 gttacagtaa tacccatttg tctattttat cttttacttg atgccacaat tctacgacat tatttggaaa aatcccaatt cactaaatca tgcagctctt ccaatgttga catatttcat cctatagtat taaaaaatcg tatttgttca tatctgtatt gatcttagtt gaaaagtatt 15540 ttaagtagga agctgtcaga cttgtggtgg cagatacaag ttttccaaaa ttctaatttt cacttgaaag cttgaattct atcacatgca acaaataatg tcagtggttt tccccagagt 15660 ggcagcctca ctttgttaat tttcaaaaat gtctgccaaa tacccaggtc tgagtaactg 15720 15780 accgtggttt gtcactcaag tttcctttca agtaaaaatg gtgtccttga aaaaaatgac ttgattagct tgcaactcaa acagtaatat gcttttttt tttttttgg caataaccat tgtacttcag tatgcagaag ggctttaagt gtacttagta tttcatcaca cagtgcatta aaaagatttc tactgccttg atttgtgcta agggccacca ttacttgtgc actgtcttga agatgtcaac acagtgaaaa agtccagtaa tgtcttggta ttattataaa aggagttttg 16020 actttgcagg gcccctgaga ggctctggga gatcctcagg ggtacgtgga tcttactttg agaaccagtg ctctgaattt attctgagca tcataatatg tatatataat tatgtatatt

16200 taaaatgttt taaaaacaaa tatgaataca ctgttgcata acagttatga ttagcagaat tgtgtagctg ttgtgattag cagtgtacaa aaaggatctg tttgcgacca gccttgccaa 16260 cctggtgaaa acctgtctct attagaaata caaaaattag ctgggtgtag tggtgggcac 16320 ctgtaatccc agctactcag gaggctgaag caggagaatt gcctgaacct gggagacaga 16380 ggttggagtg agccgagatc gtgctattgc actcccacct gggtgacaag agcgagactc 16440 16500 cctttcaaaa aaaaaaaaa gatctgactc tgggtatgaa atttgacact accctggatt cataactctc ctgtcagtag gacgccatag taaaatttcc ctggggactg tatcaggtta 16560 cagagagetg ttggactece eegecatgtg eegeacatgt gaatgetgta aaggeagaat 16620 gctggttgca gatcacaata tcaggtacac tttccagtag cccctacatg gctgagggag 16680 16740 agagtgcttc agggaaatac ttcgtaggtg actgtagaga ctctggaagg agaaagcatc 16800 atggatagat ctgaaagcta aggtcttctc agaagctaga gttactgaag agtgagtttc tacctgggag aagacggcct ctcccttcga gtgccttcca ctttgtgtcc tggtggcagc 16860 16920 aactttttgt tttctgcctt agagctcatg gtgacaccca gcactgccgg aaggctctgc 16980 accgggccgt ccagtgcacc agtgactacc cagagcacgt ctgcgaagtg ttactcacca 17040 tggagaggac agaaggtggg acccccagct ctcttctggc ttggagccta acccatttgc 17100 tgtttggtct caagtaggag catctggtta cagtctgggg acagactgtg tttatgctgc caccttaggt ggtgccctat gattagactg tcacaagtgt cctgaaaatg agtcctcctg 17160 cagetettet caaattetge agetacaagg aggaetetgt gatgteactg tageacaggg 17220 ttctaattct ctgtggggg gactgtgcgt tatacaatgt ttaggggcat ccctggcttc 17280 tagecetgaa atgecagtag eagetteace accacaacea aacatgacaa ecagaaatgt 17340 ctcttaacat tgccaaatgt ctcttgatgg gcaggatccc tcctttgaga gtcactgtgc 17400 tctagtacaa catctatcca acaaaggagc ttggagaggc aaatggctca atgtgtcctt 17460 tgcatccctt gttaaatttc agagccttca gtgttagcta gaaccaatag aaaaataatg 17520 17580 tgaacttatc tgtgggtatt ggtctggatt ttgggtatgg acccctcaga actggcttgc aaagaccacc aaaaaataag aaataaatgc ctcaacattt gagtagctct taaaattctt 17640 17700 cagtcttaat ataaatgtac ttttgcatta gaacgttcgt tttcatattc ttgccattta 17760 gagcccttaa tagatcatat tctggttttc aagtctctcc tgaaaggaga gggacatttt 17820 aaacccactt agaaggacta tttgaattct gaacttcaag cctacaggga ttacattttc 17880 ttattgtttg atgggagaga tctcttctgg aggtacagag aaattaagaa aaatttatgt gattgtatcc ttcaaaatcc taaagagtga aagttttgct tctctttctt tcaaggttct ttagaagatt gggatatagc tgttcagaaa actgaaaccc gattagctcg tgtcaatgag 18000 cagagaatga aggtaatgac aatgtttgaa gtctttggca cctctggtag ctattttggc 18060 tcagtttggt atggatgttt cttgtcaaga tgttttacat tttcctaagt gtcttttact 18120 cagtattaat tataaaatat ttagatcaat gcttaaacct gtcttgtgtc atttttacat tgttctaaaa catcagcccc aatattaagt acttgtttca tttagtgagg gaattttggc 18240 tctaaaattt acgagaattg atgaaaaaga ataaagaaga gcctcactta gcctagtgag tggaacatga acaccccaac ttatttaggg cttcagtttt atggattttt ttttttttga gacggagtct cgctctgttg cccaggctgg agtgcagtgg catgatctcg gctcactgca agetetgeet eeegggttea egecattett etgeeteage ttetegagta getgggaeta caggtgcccg ctaccacacc tagctaattt tttgtatttt tttagtagag atggggtttc accatgttag ctaggatggt ctcgatctcc tgacctcgtg atccacccat ctcggcctcc 18600 caaagtgctg ggattacagg cgtgagccac cgcgcccggc cagttttatg gattttttg 18660 18720 ccttcctttt ggtgagtaat gattagggtg aggaaattgc taatgtaaca gagacatcag atccagaatt ccaacgaacc tgaatgagcc ctggtgtgga acagccgtga gcctgtccac gtttttctcc tgatctctgc ttttcattag taatgaattt ccactccttc tcccctttca tgacaaatca gtacagtgaa tgtaattgcc acatccagcg atgcatcatc ttcccacttt tctaggctgc agagaaggaa gcagcccttg tgcagcaaga agaagaaaag gctgaacaac ggaaaagagc tcgggctgag aagaaagcgt taaaaaagaa gaaaaagatc agaggcccag agaagcgcgg agcagatgag gatgatgaga aagagtgggg cgatgatgaa gaaggtaagg agctcttgag aaattgtgtt ttgaaacgtc ttaaagttag agaagttgcg aatacagtat 19140 gaagaacttt cttccctgaa ccgttaccag cttgataccc attacccttt gatcactgtt 19200 19260 agggtgtatg tcttgcaaac aaggggccct cttctacatg actagaatgc agccatcaga gccggggtta gcaatgagct atgggttccc atttatcctg ataatgtcct ttgtagtgaa 19320 19380 aggatccggt tcaggatgca ctattgtgtt tagttgtcct gtctcctgga tctccttgag 19440 tctggagcac tcctcagctt ttttttttta ctctgatgac ctgcagtctt gtaagggggc 19500 aggccagttg ctgtgttgtg cccctcagcc tgggtgtgtc tgatgctccc taagcattgg 19560 attccactca tgcatctcgg gcaggaatag tgcacaagtg ctcctgtggc ctgcccattg agtcccatca ggtggactgt gattcgcttt gttccatcac tggtgatgac ccttttgaga 19620 19680 attatttatg ctgattctct acttatccca ggtttggcta gcaagagttc cttcacacag 19740 gcttctatgt ccctttgacc tgtccccttg ttctttgatc atttccttac cttctagcac acaataccca agggtcatct tatactttcc ataactcagc cctggaatcc atcatttctc

caaggttcct	ttgagtgatg	agtggtattt	agaaggtgct	agttgtgctc	actgctgttg	19860
gttattgttc	tgaggcctga	gtggtcgagg	gtagggagtg	tgtgtgtgtg	tgcgtgtgcg	19920
				taactatttg		19980
				caccacaggg		20040
						20100
				ttcatttatt		
				tcttggctca		20160
cgcttcccgg	gttcaagtga	ttcttgtgcc	tcagcctctc	aagtagctgg	gattacaggc	20220
atgcaccatc	atacctggct	aattttttgt	atttttagta	gagatcaggt	ttcgccatgt	20280
				tctgcctcgg		20340
				cacgcccttc		20400
				ccacccggcc		20460
						20520
				gccatcccca		
				ccttgcttct		20580
cttccagatc	taggctgctg	ggtccctgtc	actgccccat	gcctgcctgt	cttcttcctt	20640
ccattcaggc	tctagcatcc	cgcaccactg	ctgcagcccc	aaccctgcac	agacctgcca	20700
ggcttggccc	tactttttt	tttttttt	tttgagaggg	agtctcgctc	tgtcgcccag	20760
				cgcctcctgg		20820
				tgccagccac		20880
				agccaggctg		20940
				gctgttatta		21000
				cttagtggaa		21060
gtgtttcttt	cacccttgta	atttcaggga	cgggcagctc	tgggtcatat	ttatttcaga	21120
gagtcagtca	aggtaaagaa	ttgtctctgg	tggctgggcg	cggtagctca	tgcctgtaat	21180
				gtcaggggtc		21240
				aaattagttg		21300
				gagaattact		21360
						21420
				ccagcctggg		21480
				tgtctctgga		
				aactgggaat		21540
				tcctaaatga		21600
ctcattgctc	cactggcctc	ccagtttggc	agaataaggc	aaatgtgatg	tgtgaccgca	21660
ataatatata	atcagggcat	ggcgtgtgat	caggactgtg	ggagatggca	ttgttaatac	21720
				ccaggaagac		21780
				gcgagaaggg		21840
				cagcacagcc		21900
						21960
				gagaggggtg		22020
				cagcccaggg		
				gcagcgggtg		22080
				tactggccct		22140
				tcttaaggac		22200
attgaaagtg	ttttagaaac	cacagatcct	ttgtagtgct	ttccaaaatg	tgctccctgg	22260
				ttctcatgtc		22320
				tgccttctga		22380
				ttatgttatt		22440
				gtcgtgggac		22500
				gtctggtgag		22560
-	-					22620
				ttcaagctcc		
				agagcagcct		22680
				aaatgtagaa		22740
				ttcgaagcag		22800
cagcctccct	gaagagggac	atgcccaagg	tgctgcacga	cagcagcaag	gacagcatca	22860
				ggacacgaag		22920
				cttcagcaac		22980
				agcccttcag		23040
				ccctgtgtg		23100
						23160
				gcctttcatc		
				tagacatgga		23220
				ctgagccggt		23280
				atgacaaggg		23340
				ctgtgaatgg		23400
				gttaagtgac		23460
- -			_			

ggccccatta acaagtttca gagcatggct tggctctagt ctgcctggct gggctgctca tggggacaag gctggtgtca gaggagtcag gtgagctggg tcatgcctcg aatcatggtt tttctctgtc ttccttcttc ctataggtgt tcaggtacag cacttcccta gagaaacaca agctgttcat ctcaggcctg cctttctcct gtactaaaga ggaactagaa gaaatctgta 23700 aggeteatgg caeegtgaag gaceteagge tggteaceaa eegggetgge aaaceaaagg 23760 tcaqaqtcaq agcagattgt gccttgtctt caaggettgg gcaaacttcg tttctgtatc ggttcaaaga tgatttaacc tctagaatgg gttcctagtt tgtctgctga gaaacaaaag 23880 ttaatttcac agaaagatct gcacttagct ctacttatat ttggagtcag attaacctgt ttgtagttaa ttgtactaaa aagaataaga cacttggaaa tagaggatca tgaattcacc 24000 acactatggc ccctggctgt ggggcttggg ggaagccctg tgaccagcag catacgggct ttggggtggg cgccctcctg cagccttctc cctctgtccc aggcctctct ttctctgggg cctccaacca ggccccttga gtccctccat tgcagtgcct cttctcctgt ctttccttct 24240 tgcccctca gtctcctgct aagtcctttt gtgccccatt ttgagtagta agtggtttca 24300 ttactgtcta cccactgccc actctccctc ccctttatcc aggttaatgg agagaaaaag 24360 aggatgaaat gagggagcgg gtgaaggcac agaaacacga gggctcacct gggcacctgg 24420 gctgctggcc ctgtgtccca tccacctctt ggtttatttg ctggatttat actggtccat 24480 ctgtcttttt ccttctttct ttctacttct gcagcacgta caaggtgtgc tgaacttgga 24540 agggttatct gaagttacag tgcatagcag cactcgggaa ggagagtagg gtggggaaat aagcctgtag acagaggatg cggtggtggg gaaggtaacc tgttggtggg tcgtttgctg 24600 24660 tggcctggtc tgctggtctc cgggaggaag cccagtgcct gccctgcagg aggaggttgc 24720 gtccctagtc tgcgggatct gacttggttc tggatcttgc ctcttccagg gcctggccta 24780 cgtggagtat gaaaatgaat cccaggcgtc gcaggctgtg atgaagatgg acggcatgac 24840 tatcaaagag aacatcatca aagtggcaat cagcaaccct cctcagagga aagttccaga 24900 gaagccggag accaggaagg caccaggtgg ccccatgctt ttgccgcaga catacggagc gtaagtgctt gcatggtaga ctagtgcaaa cttcgtcctg gctggcacca gttcatggat 24960 25020 cacgggggga ttaacccggg atgaattagc ttcctgttag gacagaaaag ccaagatgtg 25080 ctqttccttq tqqtaatcac tgtggttcca ctggagcaag gcgtccagag caggatgcaa gcctaggcag tgacctctgc ctggtactgg ccaatttaca cttgtcattt atttcagaca 25140 gaaataaggc agtgattatt ttaaagtccc ctttgccagt tggatctgtg tgtttacaaa 25200 gaaatctcat acccatgtgt gtgccagtct acggccctag ctatgatcca cataagctgt 25260 25320 gctgttcgct ggtttgggat gaggaggaga tagcagaatt gccaggtgac tggtgaggtc 25380 tgagaggtga tagtcacact gatcccctct gagtgtgact ggtgctcagg gttgatcttt gccaaaactg aacaaggcca agtctgttga agcagttttt acttcataaa cagaattaag 25440 gaggcaggga ttatcttatc ctttttttt ttcacctttt aacttctggt tatattaaaa 25500 ctgtcttggc ttattttcac aaataaatga ggggccacga attgttgctt caaaaggtcc 25560 attcagtgtt tgctctttta ggagggggaa gggaaggacg cagctgtctc tactgcctcg 25620 25680 tgccctgcag cgcccaagtg ctgcagctcc tcaggctgag aacggccctg ccgcggctcc 25740 tgcagttgcc gccccagcag ccaccgaggc acccaagatg tccaatgccg attttgccaa 25800 gctgtttctg agaaagtgaa cgggacgctg ggagacagga aatgccttac ttcactctgg 25860 cccggcggac ctcccaccac ccagcagtgc actggggatg gacaggcctg gtgtgctgcg tgctcgcaac cacagatggc tcctcggctt tagacagaaa ggggaagggg ttctaagtca 25920 25980 agageettte agtgeteect catattgagg geagtggeag aaaagtgaee actetgeagg 26040 ctgggcccag gatgtggtgt cctgagatag ttttgtatct taaagactga ggcacagaag 26100 cgaaacgaga acacactgtt tttgagacac agttgtccaa atgtttctgg ccagctccgg cccctttttg tatgacactt ctcttccacc ctgcacagca catgtgcccg tcattcttt 26160 aattttaaaa gatgaaatgg cagatgctag taattcacag aatggcctct tgtgggggtg 26220 ggtctgaggg aagtcagcta taaaacattt gctggagttt tgttcaatgg ggctgtgcat 26280 ttttatatta tgtgtttgta aatgacatgt cagccattgt ttcatgtttc ctaaaagcag 26340 aatatttgca acatttgttt tgtataggaa ttatttgtgc cacctgctgt ggactgtttt 26400 ctttgcctag tgactagtga cctgtgttgt ctaaacatga gtttcagccc tttggttttg 26460 tttaatacca tgtcaaatgc aaacttcaat tctccccatt tagctttatt aaactgacgt 26520 tctcttcaaa acttcttgct gaatggtact cagatgtgca ttcacataca gatgtgtttt 26580 gaagtgggtg taccttgctt tacctaatag atgtgtaaat agaacttttg taagtcaaat 26640 cccattgtca ctttgattta aattattcca gctgtgatgt gtcttcattt tatagcagtt 26700 tgacactgga gcttttgagc ttttttacct cacatctttt atcaaataat atttactgct 26760 ttgaaaacag caacagcatt ggccagttca gtaggggaag cttgctttat taagacactc 26820 tggagaaaga cgtcagggaa tccttgtata tgtcgtggga atcaactcct catttatctg 26880 ttgcgtaagt ttaagttttt gtgcatcagt cgggttttct atattttttt aacttaacat 26940 27000 tttttaatat aaccgattaa aaagtagaca gaacagtaaa ataaactcct gtgtgcctac 27060 cattcagctt ccagcattcc tcaactccca gcccctcttc cttcatgtct gtttcccctc caccetetgt tatattgagg caegtteeag atgteattgt geteateeag taatgttgeg 27120

gcaggtgtct caggaggact gaaaggcctt cactcctaga aacattagtg gtaatccctt 27180 catgtcatca actgtccact caaatttcca ccttcctaca aatatcagct ctcctccctg taaattattg gttggtaagc ctcttaagtc ttaaaaggta ggttcccctc catctctttt ttatacaaaa ccaacttttt actaggcttt acttctgaat taaattcaag cggcggctat tgacagcagc aagaaccttt gctgtcccac gcgttcctcc tgcagtgttc tctgtgatgc tgcttggaag gctgatggac tgttcagctg gtgtgatgat ttgggtagct cagagccctc atggttgggg acctgacaca tgaagagccc tgaatatcac tatgggtgag tgtggcctta ctttttgctg cttcacatta acggtttggc tttgcctgca gccagtattc tgaccttaat 27600 27660 gtcacacttg cagatgtcag cccaggcttg gtacaggggc aaaccttttc aggcttgagc 27720 agaacccagt taggttccgg gtgttgactg ttctagaaat ggatttccag gactacatga gtgggtttgt gtgttttccc cagaaaatcc agaactgatg ataaatagaa atgtgaaaaa 27840 ctacttcagt tacttgactg tttgttagta aaaaaaaatc agtaattcat ccttgcccac 27900 ctaggtaggc ggtttatcca acttctgggt ctcttgccca tggaaatcac catcttggat 27960 ctgttgctct cccagaacag tattatgaat agggctaaag gtcagaatac ccccactgcc cttatgacag atgggaacat ctcccaaata agacagtctc aagcattcat gtaataaaat 28020 28080 aactttatta gaatcaggaa tttgttaaaa taatatcctt cacatatagc taaagtgcaa 28140 attetettge tetgtagtag aageaageae atetgteaga ceteegtggt gtgettataa aaccaagacg agaagagttt taagaagtac ctctggcagc ataagagtac gaaaacacat 28200 tttataaagg tttgaacaat tatcatttgg agccatttca tatatcgtgt atgtcttttc 28260 acttattttt cttaaccttt caaaaactac tctgtgctat ttatacaact gaagaactgt 28320 28380 ataaactact ttagagcagt ggcctcatta ctgtcaggaa cggaattacc aaatcaaaga gacaacactg cgtattcgcc atcactcaca cactgacaaa gtgcagtagt gttagacatc 28440 atgggctctg tcactgggaa agggacccag tgacttccac ctctctgact ctaaatagca 28500 28560 gcagtcatat tggcacctgt accatatgat tcaaagagaa gattctactt ccattggatg acagcttgga aacccggcca tattacatag agcactacat catttcacaa gttgcgagaa 28620 28680 aaataaggcc actccgaggc aatctcttct gcctcccagg gggatgggac acgggacagt 28740 gcaaagaccg tggaagatgg cagtaagtag atgaaactcc aggaccaaag ggatgcagcc tggccatggc tgaaggtttt tgctccattc agtagaaact ggtgctctaa ttcattatca aaaatgctta cttggtgtcc acatggcact tgttttctca ggttaacatc tgcctacaga aaactcaggc agaggggtga gggcagatgc ctactagcat aacacctggt ttgcagcacg 28920 atacaggtgg aatgacaagc ccagagaatt tcagacgaaa acatctggcc tgagttgcta caaatgaagt gtgagagaaa cgcggataca caaagaaaac caaactgccc gcccaccatg tttcccctc caacatacag ctctttatgg ctacccccta ttcttaatta gaaaaatagt ctcaatatga aaaaaaaaaa aaaaaaaaca gctgctggca ctaaagtttg caaactatgg ctcaaaaagt cttcctgcag gtaagtaagg aatgtcggca ttcattttct cttctatgaa gtttgcttgg aagttagtca ccactaatct aaaccttgag aaagtgagct ttcaaccatt tctctcagct gcgacttggg tctgacttcc cagttgcagt cacagaacct ctcagcctgt ttcagagaag cacttggagg agttatgtca gtggctctgg gccccgtccc acacctcttg gccgctcctc caccttagtg caaattctgc tccagaacct ttgttctggt cacatggtgg cactgttgcc cctaaagcac ggccaccagc aagacacagc agacaccata caatactgac 29520 tagcttgctc caaagaagaa aataaatagc ttggttgaat tataagttat tttagagaca aggetteata aettagtttt ttttttttt taaaaetaaa aeatttggag gtaaagaatg 29640 tttctccttt tgctttagga agtgactagg tttctagaaa tgctgtttct tttttttt 29760 cctacctcag gacagccttt gtcactgagg atttctaggg ttagggcttc acaggaagcg 29820 tctccttgaa cccagagtgg ttgggttggg cttctggcag tgccaccgag tactcagttg 29880 tggcaaaaag cagggtgtcc agggtggtct cagtacactt ggcgatgaag cgaatgaaag gcctcacgtc gccctcgttg gcagcttcca acacgtggta gtagtcggac cgctgctcct 29940 30000 tgcggatggt gatgggcggg tagcccgcct gcatgaggat gaggttcatg agcagacggg aggtcctccc gttgccatca atgaaagggt ggatgtaaac gagtttataa tgggctaagg ctgcaaactc cactgggtgc aggttcatgg cttcctcgga gttgagccac tgtacaaact 30120 cctgcatctg cttttccaca tcctgcggat ggggagggat gtggtgtccg accaggacct 30180 30240 gtgttgtccg aaacctgccg gcttccacgg ggtccacgta gcccagcacc cgcctgtgga tctccagcac gtcgctgatg gtgacggagc cgatgcgcga aaccagagtc gtgttgatgt 30300 30360 actteatgge tgeatgeatg cetatgacet egttetgete etceaggete tteeegggea 30420 cggcgtagcg ggtctccagg atgtgcctga tttccgagag ggtgagggtg ttgccctcga 30480 tggccactgt gtggtagatg tgatggtagt aggtctcctc catgaccctg cgcagagctg 30540 agttcccctt ggggatggac atgaccttct tcactttgct gtcgatgatg ctgaaatacc tctggtcgat ctcttccaca agaggcagtg tccgatcgcg gttgaccagt gctttctcat 30600 30660 ggtagggtga gatggtcaat gctctggtgt acaagtagtc cgcctggatg atgtccttgt 30720 cttcttccga gaagatgcca aactcggtga gcgcgtccac gaagtccggg tccatcttga gggcgtgcat gaagagcttt tgggcttttt cccgcttgcc ctggcgcttc atctccaggg 30780

```
30840
cctggttcag ggcagctctg gcttccaact tacccgctgg aagagagcca aagaagcgct
gtgagggagg gaggctaggg ggcagaggac attcgggggg ctgtcccctg tgctggtctc
                                                                   30900
                                                                   30960
cgcaggaaac catgatgacc agcctgtgtc cctggccttg aggagcttgt tgcagccgca
tcgtgtgtac tcaacatgcc cggtaccact ctgttgcccc agccgtgtgg tggtatgcag
                                                                    31020
tcactatccg tgtgtcccca gagccactct cttgtattct gggaggcacc tccttggctt
cctagcctcc tgctttctgg acatagaaag ttctaggcat ttacttcgcc tgggccctct
ctgctgggcc tttcctgtgg gccacagctc ccagtgtagg ccgtctccta catctccagc
                                                                    31260
tcatcttgtg ctggtgacac aggttcctgc cccgggaggc ccaaaggcgt taacaactcc
                                                                   31320
ccactettee tagaccetgg gggcgteaac cateeeggga etgttettta actetttaa
                                                                   31380
cccagtggtt tgattgtgcg ccccagggga catttggtga cgtctggaga cctggttagt
                                                                   31440
tgtcataact gaggaggtgg agggagtgct acaggcatct catggggaga ggccagggat
                                                                   31500
gccaccacca tctaacaatg cactttcagt ccccaccaca gagaactggt ggaggtgggg
agectgetet agecetagee etectgteet ggeceetett ggecaeetga ggateageee
                                                                    31560
                                                                    31620
cacacattca actteettta gtteetegaa tgeececagg etetettaeg acagttatgt
cagttatgac aactaacctc tggtctctgc ctggagtcct tttccttgga tgcccttcac
                                                                    31680
                                                                    31740
cctggatgac tcctacttaa caactgggtc ccagctcagg tgtcacttcc tccagggagc
cttcctggta tgctcctaca gccctttatg cttccccatc accacattg tgacactgtc
                                                                    31800
tcagtcacat caccttgtct atactaggag ctcagggctg acttgttcac aataccccga
                                                                    31860
tgccccacat acaggacatg acacattcta tgtctgtcta tccagttaac aagcattgag
                                                                    31920
                                                                    31980
gaagacggcc agtctgtctt acctggagag gccttggtct tggccaccag cagcgtcgcg
                                                                    32040
cccctggagg tgatgctgag ctccgtggac gggctggtgc acttggtggc ggcatgctgc
gccctgtccg gtttgctcct gagcaggtag aggcctttga gcacagccaa gcactgctcc
                                                                    32100
tccacagccc ccagcggcag cagcagggcc agcagggacc ccagcaccat gctcagcagc
                                                                    32160
gtcacccaga ggaagcggct ccagaccgag acccatttcg gttcagtcac cgccatcact
gaagccattg gtatgagcat catctggact caggagaggg ccctttgcgc atgtccacag
                                                                    32280
                                                                    32340
gcggctgaga gagagcagga tctgcaagga gccaagagtc gcaggagaaa cagacacgtt
caggacatag tgtgacttca gctgggaaga tgggtttgga gacttctgct cttttagctc
                                                                    32400
                                                                    32460
actagagaga tggggtgggg gcaagtcaag gactggatct cactagagga ggggccagcc
tagaaggact ggtgccacct cctgggcagt atgaatgtga aaacactgct gtggtccaac
                                                                    32520
aattaatgag cacttgccat aatccaggcc gtgtgctaag caccaaatgc ctcacatggg
                                                                    32580
                                                                    32640
tcacctcctg caatcttcaa cgacttgagc tgatgttttc acccttctcc aggtgaggga
                                                                    32700
actgaggttc agagaggtga agtcccttgc cgaaagtctc gccgggagca agtgacagcc
ttaggacttg aactcaggaa ccccacggct ctaaagtgtc cccccttccc atatatccct
gtggcttctg accacaaaca ctggatttgt ggacatatgt caaacatttg ggacataaat
gactgacaga cacccaggca gatcagccac agcagttctg acgcccaatc tttgataagc
acaattgttg ggtggcctca tttattgccc tcaccctgat attcagccac agctcccaca
                                                                    32940
gtgcccttcc cctctctggc cttccatttc tggcctgtcc agaagggacc ccatcaagaa
gatgagcagt tcgagcatct cgaaaggaac tcaggctgtg ggccacagtg cttggcctca
gtgacaacat ggcttgtatg tgcttggggc tggcagtggg agtggaggtg gggccaggca
                                                                    33120
tgcaaacact atgctaacaa taagcactta ttaagcaact atggtgtcct aggtgctgag
                                                                    33180
cagtgtactg gccacgcatt gcctcgtttc accctcatgc caccctatga aggaagagct
                                                                    33240
                                                                    33300
accgctagct ccattttaca gacaagggaa accaagacac agagagcata agttaaattc
                                                                    33360
cagaaggccc acaggaggta aacagaggca tccggaagga aaccccaggg cctctgaacc
cggtccccag gtctcgattt ctaccttatt actaagcagg gcctgtgcac ctgctctggg
                                                                    33420
                                                                    33480
ctggtcctga cccgggaatg actgatggat cacggggttc tgagtctcat ggggatcctg
gcccattgcc acagaacatg tgaaatggct tggggtgcgc tttaataggg gtgcgcctgg
agtgctgcgc gggtccaggg gtctgggcgg gcttcccgag gggacaggct cctgggcggg
                                                                    33600
gcggtacagg aaagggggca gttcgccggt gccaggggtg tgtgcaggga aggagtgcgt
                                                                    33660
totgggaggc gcgaatctct ccccacact tccctagaaa gggagaactg aggcccggag
                                                                    33720
aggggagggg accggtctga gtcccctcca agactgcaga gcctcccttc ccgaaccccg
                                                                    33780
cccagggctc gcggccccgt cgcacccttc ccggcttcat cctctcgagc ccctagggct
                                                                    33840
tttccccttc tcaccgcgcg cagctgtcag aaccccaacc gccttccccg cgctcccagc
                                                                    33900
                                                                    33927
teegggeege eggeteeegg gteetee
```

```
<210> 12859
```

<211> 254

<212> DNA

<213> Homo sapiens

<400> 12859

```
caatgtttgt tccattacat atgatttaga aagctcatga ggagaggagg ataatctgtc
                                                                       60
                                                                      120
gtagttcccg tatttctgct cttcctgttc tttcttcctt tttgatgctt taggattcct
                                                                      180
tettetaact titetgtteg aagaactiee titagetati etteaagggt aggtetgeta
                                                                      240
gtgacatttt tttcattttt ctttgtctca gatatatggt aacttaaaat aattttagtt
                                                                      254
tgaaaagttt caaa
<210> 12860
<211> 4319
<212> DNA
<213> Homo sapiens
<400> 12860
caagtccctg caaagaagca ccactctaga ctggcaaggg cctccacagt gtggaggtcc
                                                                       60
                                                                      120
cattttatta tttttttt tcgagacact ctgtcaccca ggctggagtg caatggtgca
                                                                      180
atctcggctc actgcgacct ctgcctccca ggttcaagca gttctcctgc ctcagcctcc
                                                                      240
tgagtagctg gcattatagg tgcccaccac catgcctggc tgatttttgt atttttagta
                                                                      300
gagacggggt ttcgccatgt tggtcaggct ggtctcaaac tcctgacctc aggtgattcg
cctgcctcgg cctttcaaag tgctgggatt acagacatga gccactgtgc ccggcccca
                                                                      360
                                                                      420
ttttatttta gttttatttt gagacagagt ctcgctctgt cacctaggct ggagtgcagt
ggcgcaatct cacctcactg caagctctgc ctcccgggct caccccattc tcctgcctca
                                                                      480
gcctcctgag tagctgggac tacaggcgcc cgccatcacg cctggctaat ttttttttt
                                                                      540
tttgtatttt aagtagagac ggggtttcac ctgttagcca ggatggtctc aatctcctga
                                                                      600
cctcgtgatc tgcccgcctc ggcctcccaa agtgctggga ttacaggcgt gagccaccgc
                                                                      660
                                                                      720
gcccagcccc attttatttt ttactttaaa tgcctgccaa ggagcagcct caagcccaga
                                                                      780
gaagactgag gctacgggga acttcccttg ctgcaggctg ttgtaacact ttaagggccc
                                                                      840
caggtctcca ctgccaagca ggacttggca catgagcacc caccccacag caccatcagg
                                                                      900
cagcacccat gggctccacc agcccagctc tgtccctccc ctaggtaaag atcacactga
                                                                      960
agtcttcaag tccccagcaa ccaagttggg ggtggtttcc ttcctcttca ggcagccagg
                                                                     1020
cccatggctg gaaggccggg ctggaggcca gggaatcggt tactgatgtg gccaccctat
                                                                     1080
tcccacatgg ggagcaccag gagccctgga gccccttcca cccaatccca tctcgcagga
                                                                     1140
gagcagggtc tgggctcctg cctcaccgct ggttcagcag caccctcccc gccgggtccc
                                                                     1200
accttgcctt ttgaagaaga gcccgcataa tgagtggacg gcagacagct atatttagtg
                                                                     1260
gtgcctcgac actcacgaac cgccagcgtg gcgcctggat cttgcccagc tgccagctcc
                                                                     1320
ccccaccagg actgtggttc ctcagtttct cctgccagcc ccggctcatc tcagggcaaa
gctatagaca tggtagatct catcggggag gttctcctgc ctctcctcgg ccaggaggct
                                                                     1380
gaggectgea etgeagatga teetgeggae caegteaagg teeeggeaea egetgetgte
                                                                     1440
                                                                     1500
cacgtcgtcc agaatcacgc cctcctgggc catgttgtct ttgatgacga tgatgccgtt
                                                                     1560
ggggcggagg ctgcccttgc agcgccgcag gaactcggcc aggtgctgat cggtgaggtg
                                                                     1620
gcctggggag ggcagaggca aggttaccag ggcaccatgc aagcggatgt cggcactgga
tgggatgtac ttctcagccc cgctgagccc ctcatttgtg cccagcattt tgtgtgcaca
                                                                     1680
                                                                     1740
catggcctca ttggctctca gtcccgagag atttactaaa ccccaattca tagaatagga
                                                                     1800
aactgtggct cagaggtcat ctacctaaag acacattaag ccagaatttg acttgacggg
                                                                     1860
atggettaca agtectgeet gatacetaca caccatgatg ecceaceet gecaggettg
                                                                     1920
gatcggagga gtgaacctgg gctaagagtt tggcattgca ggagctccca gagagactgc
                                                                     1980
cttccctaca ctagaagtcc ccacaaaggc ttctgagacc acaaaataca aggccagacc
                                                                     2040
tagagtgtcc acagcaggcc tgtgctgccc gcctcaggag gtggccgact gctgctagcg
                                                                     2100
gcctgccgcc acgtcagcag cccagggcac agcgctcgag gtgtgctgtt aggctaagag
ggtgcagggc tagacacgaa gcttaaacta ttcatcttat taaaaataaa acccttataa
                                                                     2160
                                                                     2220
aactcctcac tttgaatgca gtaagttatt ggccattaaa attttttcaa caaaaaactg
                                                                     2280
cacccaaatg gatggtagca ggtattcaac tgaaacaaaa cctagaagga agaaatctac
                                                                     2340
cttttaggcc gagcctgtcc ctcagtcctg ggaagtacgg ggtgggggtg ggcctgggcg
gggtggggaa teeteaetgg eecaettget geaggagtge aaageeetgg teetgacaee
                                                                     2400
                                                                     2460
ttatggggaa cgcgagtggc aggagacata caggtgagca gggaagggcg gtggaaccct
                                                                     2520
cacctatcac ccactggatc cagatcacgt cgtaagagtc cggctccggg gtgaagtcct
                                                                     2580
ggagcccaca acagaagtag ttcctcaccc tcttgccctc ctcccccagg taggtcttgg
                                                                     2640
cttgaaccag gaagtcctcc gttatgtcga ccatatccac ctctctgaac agcggcagga
                                                                     2700
gcagccgctt ggtgatcctc ccaatgccag ctccacagtc cagggcacag gacgttcctg
                                                                     2760
tcttgttcgg gccttcctga aaagcagagg catataacct atcagaggga ccctgtcacc
                                                                     2820
gcacgtgcgg cccttcctca cgagccctag gacttagact caagtcagga ttccaggact
```

ccgcacaagc tgagcactgg tggggaggtc tgtgctggct gccagcttgt acggagtcga

2880

```
2940
ggggatgagc atgggaggac acactgctgg gccacacatt cctttatctt tgaaagttca
                                                                     3000
ggttgcattc tgcattctgt tcaggttgga atgcagtggt gggatcatgg ctcactgtag
cctcgaactc ctgggctcaa gccatcctcc atcttcccac ctcagcctcc caagtagctg
                                                                     3060
ggactacagg catgcgccac catgcccaac tcatttttt ttttttgtat tttttgtaga
                                                                     3120
gacggggcct cggtctgttg cccaggctgg tctcaaactc ctgggctcaa gcaatcctct
                                                                     3180
caccttggca tcccaagggg ctgggatgac aggagtgagc cactgcccct gccctgggcc
                                                                     3240
                                                                     3300
acacatttct aaatgaaagc taatttccac ttaaaggtga taacttgaac aggtgcacta
                                                                     3360
atctctcctg agtctccagg taaacaacgg cagagaggaa tggggagaat ggaagcgggg
caacaggtga acaagggtgc agagagggaa catggaggga ggggaggcgc tggatggagc
                                                                     3420
                                                                     3480
aggtggccaa cagcagcctc cagtgccagc catgagacaa gaaggtgggg ggctccagga
ctgggggtcc cagcctggta cagaaaaggc tgggggtgga gcagagggtg gaaaccatgg
                                                                     3540
                                                                     3600
cacataacta ggagtcttcg tccagaatag ccaacaccct cagtccaaac acccgtggac
                                                                     3660
atggcaggag agcaagggtt tcgtccctgg caaaacccaa cagttgaaga gaggtttgcc
                                                                     3720
caattcaggc acctcaattc tgcctaacag ccagctcctg tctggtaacc ctgaggctaa
                                                                     3780
gtccacaatc tagaagttac cccactgtgc ccacccagcc cagctcctca aggctttggg
                                                                     3840
gtaggtacca agagatagcc aacaatcctg cagtgttaca tgtgtaaaaag gtggcacccc
                                                                     3900
acatggactc ggcagtgcca ccagagccac agcctctcct ggagagcacg ccagacctgc
ctaccctcaa aaacctctgc agaaacttcc gggagctgtt gatgtcgatg ctggagatgt
                                                                     3960
ggccataccc cccaagcatg ccgtccaccg tgggtgggat ttgtttccag taggtcttgg
                                                                     4020
ccttggaata gaattgcttc tcgtcttcta tcacctcgct cgtcatgctg tcaccaacca
                                                                     4080
cggctctact caagcaccac gatcagcaac cgcgactctc ctgggtaagg aagggggggt
                                                                     4140
                                                                     4200
gagtcagcgg gccagggacc tggcagaaag gcccccaggg cagagggcca gtctcacacc
                                                                     4260
aggetteaca agteacacat cetgetgagt geagagagaa gteeagggte eecaaatetg
cttctacccc ttggataaca gcatcttctg tcttttgcac tcagagcacc cgccccaag
                                                                     4319
<210> 12861
<211> 5227
<212> DNA
<213> Homo sapiens
<400> 12861
ggggctggac tggcggacag gtggggtccg cggccgccgg agcgttccgg tcggcgtctg
                                                                       60
                                                                      120
ggcatctcgg cctcggcaga aagcgcgacg gccctgctgc gcggggcgcg cggcgatagc
cgttcctgca cggcttccgg agattcatct tcgagtacca gccgctggtg gatgcgattc
                                                                      180
tgggctccct ggggatccag gaccccgagc ggcaggagtc tctggaccgg taactcaccc
                                                                      240
cctcccgtga gctggccgag gccgctccga ccccgcagcg tcccagttta tcaccacaag
                                                                      300
ccgggcgggg tggatgcgtc ccccttgaca gaggaaggga cgggcggaat ccggggttgc
                                                                      360
gtggctcgga gtgcgcgctg ccccgcgcgg atcccactcc tgccccttgc atggcggaga
                                                                      420
                                                                      480
cgaagggcgg ggagggccga gggggaggcg cccgctggtt gtcgcagggc ctgcgcctca
gccccacct gtcgcctgcc tgtcctgtgc cacccccgg cgtggcagag gagcagggtg
                                                                      540
gaatccgtga gcctcagatg ttaccccaga gcagtgtgaa ggtgggcttt tgtagcagag
                                                                      600
                                                                      660
tttgcgtttt tatagacaag agctggtctg tcgtggacct gcaggaaagg ggtcgggagc
gaatctgcat tcactgccca tggtactagg cacctggggt ccatcagtgg ctcagcaaaa
                                                                      720
ccccgcctt cttggcgcat gtgctccaga ggagagactg acaagtaatt gtacggcggc
                                                                      780
acgcgaggtg gaagggaggg gagagcagaa ggaaggggct cggctcaggt gttgaggggg
                                                                      840
ttgtcagttg gtatttccaa cacgtggtaa tgatgagtct cgccatccag ggactctggt
                                                                      900
ggaaacgtag gctttcttca tcaatatcag ctgaaggtct caatgtgagg ggagggagga
                                                                      960
                                                                     1020
ggctgtgttg ctgtcctggc tgcaggtgtt gccggggctg gggtcctgcg ggtttgagga
tggaagggct ttctgaggaa gaagcatcaa agtcgggctt gggctcttgg cctccaggct
                                                                     1080
ggtggtccct tcagtcccag cagcccaggt gtgtgaggct ttgtacctaa gtctgcgacc
                                                                     1140
                                                                     1200
ggactctggg caacgcggga ggagagcgca gacagaccca gcccattctc cgcaaatccc
                                                                     1260
agtctgctcc cgtattaaga gatgcagcgt ggccctctct ctacttcaga gcttccccca
                                                                     1320
agcccctgtg acccacagag ccagggccct gcttgctgat gatgatagca ggactaaagc
                                                                     1380
ccaccaaccc acaggetgeg eggtcacceg gtcccacage tgtgcctace ctcageetet
                                                                     1440
ctcctgtccc aggcccagtt atgtcgccag cgaggagagc cgaatccttg ttctcactga
                                                                     1500
gctgctggag aggaaagccc actctccctt ttaccaggaa ggcgtgagca acgccctgct
                                                                     1560
caagatggct gagctggggc tgacgcgggc ggccgacgtt ctcttgcggc atggggccaa
                                                                     1620
tctcaacttt gaaggtcagc gagagccccg ggggtgggca ggtggcttaa acgcggcccg
                                                                     1680
acgctgggtg ggcgcccatg tccccagcct tggcttctac catcctctga ggagtgactt
ccccccttt atttcctggg tggctgcaac taaggaaact cccattgggt ggcctcccac
                                                                     1740
```

1800 cccctgcggg ttttcacatg gctcttccca cctctgttcc aagagcgagt gttgctgctt 1860 ctaccatgtg attgattagc aaactttccc cagctcccag attaatcccc acttccatta atqcaaaaat gcggctgctg gcactgtgcc cagagctaag ggaaggtaat tttctgctac 1920 1980 ttactctgag ccaatttgtt ttttttttc tcatgccgta gggagagggg aaaacaggct gcattaggca taaatcacca caggacaccc tggctcctgg ctcctgagtg ccagggatgg 2040 agatggagcc gagctccttt ctctgtgttt ttcagcccag ggagggcagg gttagtcggc 2100 2160 agacaggcag ggctgccttg tgacctaata ggggcctgag acagccaggc acgtctcctt 2220 tececateeg aagaegget tggagtetge tgggeteetg gagggteaag gagetgagae 2280 gggagggccg gttctgaagc cagtgacttg gagaccagct tggagaacct ggctgttacc 2340 accaggecta caaagcagag eegecagage tgetgtgtag egeggeetee cagecattet gagagggtgc gccccgtttt atggtccctt cttacagaag aggaaactaa agcccccaac 2400 2460 agetteagta gegtgeeeae tagaacaeee egagggeeet etagtatetg gtgaggaeag 2520 ctctgtccta acccttgatg gtgacaggag gctgggcctg tgcttctgga cactttaggt 2580 gggagtttgg ggctgggctc tgggtccggg ggccccataa gaatgcggac agataggacc 2640 cacatgaget gtgtetgeae etteagaeee agteaeetae tacaeggeet tgeaeatege 2700 cgtcctgcgg aaccagccgg acatggtgga gctgctggtg catcacgggg ccgacgttaa 2760 teggagggae egggtaagtg ceaggteeag ettgetttga ageagggttg ggeaggggee 2820 tgagcagctt cccaagccaa cctggctgtg cttccttggc tcagatccac gagagtagcc 2880 ccttggacct ggccagcgag gagcctgagc gcctgccctg cctgcagcgc ctcctggacc 2940 ttggagctga tgtcaatgcc gctgacaagc atggtgggtg cctcctgcag gaaagcagga 3000 cagctgggcc cccaggcacc ttgtggggga cacccagggt gccccaggac aacagctagg 3060 tgggcagact ggatgctggc cctggctggt ggcacagcat ggctgggcac acagggattc tgctgacttg ctgagctcag aggcttcaga gaggcagtgc agtcattgtc cctgtgctgg 3120 ccctcaaggg ccttctatag gaagaaatag ggcatgtgtg cacttagttt ccaagaaaca 3180 3240 atggcttccc attgggagag gcccagccaa catctcaggt agcatcttgg ggtccagaaa aatcctacct ttcctggcct ttccgctccc acttctctgg gtggaaaggg aatggccaga 3300 3360 agcctgtcac cctcagccct cacctgagct gagagttgtc tctgaaagtt catcttctga tectetgagt gtetggattt etgecacete etetgggttg ecetgacetg ggetteetgg 3420 3480 cetectgete etcettgete tecetecete ectaggaaaa actgetetge tecatgetet ggccagcagc gacggggtgc agatccacaa tactgagaac attcgtctct tactggaagg 3540 3600 aggtgaggct ggcgcgctcc taggcctcgt cctctcaccc gccccttcga tgtgtgctgt tgctttgcca gggttgaagg ccttctccca gcatctcttg ttctatggct cttctagggg 3660 cagacgtcaa ggccaccacc aaagatgggg acacagtgtt cacctgcatc atcttcctgc 3720 ttggtgagac cgtgggaggg gacaaagagg aggcccagat gatcaaccgc ttctgcttcc 3780 aagtcacacg gctgctgctg gcacacgggg ccgaccccag cgagtgccca gcccacgagt 3840 ccctcaccca catctgcctg aagagcttta aactgcactt ccctccctg cgcttcctcc 3900 tggagtccgg agccgcctac aactgctccc tgcacggtgc gtcctgctgg tctggctttc 3960 4020 acatcatctt tgagaggctc tgttcccacc caggctgcac ggaagacgag agccatgcgg acctcctgcg caaagctgag actgtcctgg atctcatggt gaccaactct cagaaactcc 4080 4140 agctgcccga aaacttcgat atccaccctg tgggcagcct ggcggaaaag atccaggccc tecaettete ettgaggeag etggagaget atececegee eetcaageae etgtgeegtg 4200 tggccatccg gctctacctt cagccgtggc ctgtggatgt gaaggtcaaa gccctgcctc 4260 tgcccgacag gctgaagtgg tacctcctta gcgagcacag tggctccgtg gaagatgaca 4320 4380 tctgataggt ctcaggctac aggaacgggg gacacgggca gctcaggtca gcctgttggt 4440 agatgctggg acagcattag aagagggtct ttttgatctg ggagatgaga cgggatcctt catgagaaaa gccagccagg tagagcctga agctgtgatc actccagtgg tgaagggtgc 4500 agctctggtt cttccagaga gactgccccc ttccctccag cggcactcca agtccccccc 4560 atgttggaaa gaggaacagg gcttggattg atgtttatac cctctgaatt ggaggggcag 4620 tgccagggca tttgcagaag ctgggaagga ccaagcctca gcaccccagg gctgcggggc 4680 4740 tettgttgge egeaegtgge agtgeagetg gagaggaage etggggeaeg teetgtgegg tgccaccaag gcccacccc tgcccctttt ccttccaggt tctgttactc acagaagtgt 4800 ttctggtggg ctctgcggga gaagacacta agggccccac aggcttgttt catggtgttg 4860 caagccaagc tggcccctgc ctgttcctgt agctctgggg ccaggtcagc cgtggcccca 4920 4980 cctaccagaa ctgtgctctg ctggcagctg tgcttttgcc aaacccaggg cctcagcgac 5040 catgacttct gctaaaaagc aatcatgagt gcgtggctgg ggacagacct ctctgaagtg 5100 tctcctgttg tgaggggctc actttggagc cactgaagag ccgactgtgc cacccacttg 5160 cgagcctcag tcccttccaa gctgcactgg tcattgggaa ttgtgtaaac acctctgggg 5220 ataagctgag gtgactaaat gatatattta tattataaga ttaaactgac tttcttggcc 5227 ttaacaa

```
<210> 12862
<211> 1067
<212> DNA
<213> Homo sapiens
<400> 12862
agaaaaactc aactcgtctc acaactcaga ggtacaatga aaaggagttt tttcctctgt
                                                                       60
                                                                      120
gattggaact ttctcttgag ccctttccct taggggatac taggagacaa ttacatctct
                                                                      180
aattcaacct aagtttattc ccttttagtg gggttcaatt tctgttagcc aaaagtgctc
                                                                      240
agtccctcaa acagcttatc ttttgttgtt tctctaagat tgtgtagaat ttggaaaggg
                                                                      300
tatagcttat ttgaccttat ggctttgtgc ggaagccggg gtccccagta gatctcctgg
                                                                      360
cttctggata atgtttcttt gctgctgggt tgctaggtgc ctcattggcc tccactgcca
                                                                      420
acttctgggt ggttattact tagggttgtg actattgctt gggcaatgca cctgcaggtg
                                                                      480
ctttctqqqc aattccattt catccggctc ttgatggcaa catcagcacc ttggggacac
                                                                      540
tctgcgatat gtgttttgct tctgtttttt gtcccggatt ttctgcaggg tcccctgtct
                                                                      600
caataaggaa aactccttct atcagtttat ccagggtagg caggcaggta cttctaggtc
                                                                      660
cgacgcagtg tgcctcagtg gaccaggatc atggacacag gacatgggta agttcctgaa
                                                                      720
ctcctctctg cctaaggttc ttcatctatc aaatgaaagt agtaatagtg agtattcact
                                                                      780
gaacacttcc tatttggctg cactttttaa tgtgtttcat attatgatgt gccaggcaga
                                                                      840
gctctgtaat aagtcagtgc ttctcaaact ctctgtggta aatgattacc ttttttcttg
                                                                      900
aatttccaat ttgccacaga tcaatatttc tgcaaagtac tttaaaagtt acttcctatg
agcttttaca gtgacaaatg aaaattttaa aaaaaacctt aaaattgaaa tcactgtaca
                                                                      960
aattagttat tggttataaa ttactacaaa cacttcaata aatatttaac aaataaaaaa
                                                                     1020
ataaaaaact taattcctag aaaatgacat aaaaaaaaga aaaacaa
                                                                     1067
<210> 12863
<211> 1067
<212> DNA
<213> Homo sapiens
<400> 12863
                                                                       60
agaaaaactc aactcgtctc acaactcaga ggtacaatga aaaggagttt tttcctctgt
                                                                      120
gattggaact ttctcttgag ccctttccct taggggatac taggagacaa ttacatctct
                                                                      180
aattcaacct aagtttattc ccttttagtg gggttcaatt tctgttagcc aaaagtgctc
agtccctcaa acagcttatc ttttgttgtt tctctaagat tgtgtagaat ttggaaaggg
                                                                      240
tatagcttat ttgaccttat ggctttgtgc ggaagccggg gtccccagta gatctcctgg
                                                                      300
cttctggata atgtttcttt gctgctgggt tgctaggtgc ctcattggcc tccactgcca
                                                                      360
acttctgggt ggttattact tagggttgtg actattgctt gggcaatgca cctgcaggtg
                                                                      420
ctttctgggc aattccattt catccggctc ttgatggcaa catcagcacc ttggggacac
                                                                      480
tctgcgatat gtgttttgct tctgtttttt gtcccggatt ttctgcaggg tcccctgtct
                                                                      540
                                                                      600
caataaggaa aactccttct atcagtttat ccagggtagg caggcaggta cttctaggtc
                                                                      660
cgacgcagtg tgcctcagtg gaccaggatc atggacacag gacatgggta agttcctgaa
                                                                      720
ctcctctctg cctaaggttc ttcatctatc aaatgaaagt agtaatagtg agtattcact
                                                                      780
gaacacttcc tatttggctg cactttttaa tgtgtttcat attatgatgt gccaggcaga
                                                                      840
gctctgtaat aagtcagtgc ttctcaaact ctctgtggta aatgattacc tttttcttg
aatttccaat ttgccacaga tcaatatttc tgcaaagtac tttaaaagtt acttcctatg
                                                                      900
                                                                      960
agcttttaca gtgacaaatg aaaattttaa aaaaaacctt aaaattgaaa tcactgtaca
                                                                     1020
aattagttat tggttataaa ttactacaaa cacttcaata aatatttaac aaataaaaaa
                                                                     1067
ataaaaaact taattcctag aaaatgacat aaaaaaaaga aaaacaa
<210> 12864
<211> 1065
<212> DNA
<213> Homo sapiens
<400> 12864
                                                                       60
agaaaaactc aactcgtctc acaactcaga ggtacaatga aaaggagttt tttcctctgt
                                                                      120
gattggaact ttctcttgag ccctttccct taggggatac taggagacaa ttacatctct
                                                                      180
aattcaacct aagtttattc ccttttagtg gggttcaatt tctgttagcc aaaagtgctc
```

```
240
agtccctcaa acagcttatc ttttgttgtt tctctaagat tgtgtagaat ttggaaaggg
                                                                    300
tatagettat ttgacettat ggetttgtge ggaageeggg gteeceagta gateteetgg
                                                                    360
cttctggata atgtttcttt gctgctgggt tgctaggtgc ctcattggcc tccactgcca
acttctgggt ggttattact tagggttgtg actattgctt gggcaatgca cctgcaggtg
                                                                    420
ctttctgggc aattccattt catccggctc ttgatggcaa catcagcacc ttggggacac
                                                                    480
totgogatat gtgttttgct totgtttttt gtocoggatt ttotgoaggg tococtgtot
                                                                    540
                                                                    600
caataaggaa aactccttct atcagtttat ccagggtagg caggcaggta cttctaggtc
                                                                    660
cgacgcagtg tgcctcagtg gaccaggatc atggacacag gacatgggta agttcctgaa
                                                                    720
ctcctctctg cctaaggttc ttcatctatc aaatgaaagt agtaatagtg agtattcact
                                                                    780
gaacacttcc tatttggctg cactttttaa tgtgtttcat attatgatgt gccaggcaga
                                                                    840
gctctgtaat aagtcagtgc ttctcaaact ctgtggtaaa tgattacctt ttttcttgaa
                                                                    900
tttccaattt gccacagatc aatatttctg caaagtactt taaaagttac ttcctatgag
cttttacagt gacaaatgaa aattttaaaa aaaaccttaa aattgaaatc actgtacaaa
                                                                    960
1020
                                                                   1065
aaaaaaactta attcctagaa aatgacataa aaaaaagaaa aacaa
<210> 12865
<211> 453
<212> DNA
<213> Homo sapiens
<400> 12865
                                                                     60
ttgggttttt cgaaatgttt tcatttattt tataggtata aacattaaag ctgttattac
atttctcttt caaatataca ggtatatata acatgtaata ctaaaatttg tttaacttat
                                                                    120
aaaaaaggtt aaaaacctta caataaaaca aggaaacaaa aagacataac acaagatctg
                                                                    180
tcctccacag aagaaaatgc tcgcatttcc tctcctttct ccattaatgc tgcattagtg
                                                                    240
                                                                    300
cggtgtaggc agagacgtgc ttccgccagg aaaaacctca ttagtctctg gaagaatcac
                                                                    360
tgcccgcctg tctcattgtc tccccagcca ttgcaagcac agtccttaag gtgttatgct
                                                                    420
ccctggggaa tctgaatcca cttacatgct cccctgtggg ctgcggcact taacttccct
tgtcctcaag tttggttaat gggctgggaa gcg
                                                                    453
<210> 12866
<211> 411
<212> DNA
<213> Homo sapiens
<400> 12866
                                                                     60
caacaacaac aaaacaggag gtgttattga agcttttcct gccaaaggca gagaggtaaa
                                                                    120
agaaaaccaa gatgagcgtg aagggctgtg tgtgtctgcg ggggtgtgtg tgtgtgtgct
                                                                    180
ctccgatttc cttctagtaa aactctccta atctaacttg gctccatagt gaggcagaca
                                                                    240
ttactgagag cagtaagtaa tgtgactatc tcaattcacg gtagactctc aacttactta
                                                                    300
tatgtagact ttgaagagga tgaggtttgg gagttgggtt acaggtgtcc atttaaaata
                                                                    360
ctgaacctac aatttctcca cctctgttcc ctgcagaggc atttctgcag gacatagtat
                                                                    411
caggcctggt cctgaagttc tattagaact ctgctctgtc atccaggctg g
<210> 12867
<211> 118
<212> DNA
<213> Homo sapiens
<400> 12867
                                                                     60
tttttttgtt ttgagacaga gtctcactct gtcgcccagg ctggagtaca gtggcacaat
                                                                    118
ctcagctcac tgcaacctcc gcctcctagg ttcaagcaat tctcctgcct cagcctcc
<210> 12868
<211> 453
<212> DNA
```

<213> Homo sapiens <400> 12868 ttqqqttttt cqaaatgttt tcatttattt tataggtata aacattaaag ctgttattac 60 atttctcttt caaatataca ggtatatata acatgtaata ctaaaatttg tttaacttat 120 aaaaaaggtt aaaaacctta caataaaaca aggaaacaaa aagacataac acaagatctg 180 tcctccacag aagaaaatgc tcgcatttcc tctcctttct ccattaatgc tgcattagtg 240 300 cqqtqtaqgc agagacgtgc ttccgccagg aaaaacctca ttagtctctg gaagaatcac tgcccgcctg tctcattgtc tccccagcca ttgcaagcac agtccttaag gtgttatgct 360 ccctqqqqaa tctgaatcca cttacatgct cccctgtggg ctgcggcact taacttccct 420 453 tgtcctcaag tttggttaat gggctgggaa gcg <210> 12869 <211> 453 <212> DNA <213> Homo sapiens <400> 12869 60 ttgggttttt cgaaatgttt tcatttattt tataggtata aacattaaag ctgttattac 120 atttctcttt caaatataca ggtatatata acatgtaata ctaaaatttg tttaacttat aaaaaaggtt aaaaacctta caataaaaca aggaaacaaa aagacataac acaagatctg 180 240 tcctccacaq aaqaaaatgc tcgcatttcc tctcctttct ccattaatgc tgcattagtg 300 cqqtqtaqqc aqagacgtgc ttccgccagg aaaaacctca ttagtctctg gaagaatcac 360 tgcccqcctq tctcattgtc tccccagcca ttgcaagcac agtccttaag gtgttatgct 420 ccctqqqqaa tctqaatcca cttacatgct cccctgtggg ctgcggcact taacttccct tgtcctcaag tttggttaat gggctgggaa gcg 453 <210> 12870 <211> 411 <212> DNA <213> Homo sapiens <400> 12870 caacaacaac aaaacaggag gtgttattga agcttttcct gccaaaggca gagaggtaaa 60 120 agaaaaccaa gatgagcgtg aagggctgtg tgtgtctgcg ggggtgtgtg tgtgtgtgct ctccgatttc cttctagtaa aactctccta atctaacttg gctccatagt gaggcagaca 180 ttactgagag cagtaagtaa tgtgactatc tcaattcacg gtagactctc aacttactta 240 tatgtagact ttgaagagga tgaggtttgg gagttgggtt acaggtgtcc atttaaaata 300 ctgaacctac aatttctcca cctctgttcc ctgcagaggc atttctgcag gacatagtat 360 411 caggcctggt cctgaagttc tattagaact ctgctctgtc atccaggctg g <210> 12871 <211> 3064 <212> DNA <213> Homo sapiens <400> 12871 ctcactgcaa cctctgcctc ccaggtttaa gcgattctcc tgcctcagtc tcccgagtca 60 ctgggactac agatgtgcgc caccacaccc ggctaatttt tgtgttttca gtagagacgg 120 ggtttcgcca tgttgtccag gttggtctca aactcctgac ctcaggtaat tcactcgcct 180 240 cagcctccca aagtgctgga attaacaggc gtgagccact gcgcctggcc agaaaaactt ttttattctc tggatagttt agtttcacta ctaagatgtg gccttctgtc aggaattgct 300 agtgaatata tcccaaggaa ccgatgagca caatttccac cctccaagaa cttatgactg 360 tgacaaatcc ataaactctt ctatttggta gtggattcca ggccacatgt gagttctggg 420 aactgttcag tggacagttc ccaggttact ctctttgcct gacttcatgg agttttatgc 480 540 tacacatgca agtgttagtg ttcagtgaag actcataagg accccctgca tatttctgaa attctttttc cgctttgctc ccttctctct agaatttgct tcacagtttc taactatttc 600

660

```
720
tgagetetee cetectgett cacaggetee egtetggeat gtacettetg geagaaagea
ggggtgattg gggggctcac tttgttttcc ttctctcaca gctcacagtc ttgtatgatc
                                                                      780
                                                                      840
tcttgtccag tatccgaaaa cagttgtttc atatatttta cccaatttgc tggttattat
                                                                      900
ttataaggct gaagggtaaa cttgtttctg tctctttacc atggctggaa gagaagggtt
                                                                      960
tccgtagact ctagaagtta atcccatcat agtgatgtta gtatcttcct ggctctgtct
                                                                     1020
tctqtqtqtt qtqttqgaga ttctgccttt cagtctgtct attcagtgag ggcaagtaat
gcaggccaaa caatcccaga acattcattc ataagtgact agtatgagac tgggtgaagt
                                                                     1080
gaaagttggt tttccaaatg catcgctcat aagtctctgg ctttaggcct gttggaggtc
                                                                     1140
cattcctgca gaaggcagtt ctgcacagac ttattgatta attgattcat tataatatag
                                                                     1200
ttagcaaaac tttacagtgt ttctgttgtg ggccatacac tgcccttgct ggtgaagcag
                                                                     1260
cagcaaacac tgagtcttca gtgattcctt ggttaaggaa tgctctgtgg gtcagactct
                                                                     1320
tggggatccg agacagagaa ggcacagttt ctaccctcca agaacttaca actgtgacaa
                                                                     1380
                                                                     1440
atccacqaac tcttctctct tctttctgca gctcagtaaa cgctctgcca ctgacctgtg
                                                                     1500
tggcaggaat gatggaaacc ttaaggtgat cttccctgat gcagagatgg aggatgtcaa
                                                                     1560
taaccctggg ctcagggtca gagcccagcc tggggactat gtgctggtga aggtgaggag
tccttttggg cttttggctt gcactgtgaa atgagtgttg gtttggatat ttgtggtaat
                                                                     1620
                                                                     1680
aaagtttttt cctagagaca cattttagta aaataaaaat cccctctcaa ccagtacaat
ggaagggcac tttggattgg attttagact gctccttact aatgccttct tattcttctt
                                                                     1740
                                                                     1800
acctattctc ctgccctgga agcgttcttt gtgggaattt ggtgagtttg gagtatgcag
tggcatgtag tttctcgctg cagagaggcc aggaggtgga gtgatttcga gtgagtagag
                                                                     1860
                                                                     1920
agtgttccct gttggagatc aacattttct ttgtgatctc tgacggctca ggcctcttta
                                                                     1980
acttacatgt gctcgagttt cttgggtctc ttccctggac tcacagatca gctatatggc
tgtgggattt tctctccctt tctttctctc tttctttctc cctttcactg gcgatatgct
                                                                     2040
tetettattg teteetteea tttetteett tettetgeet tetettetea caetgeecag
                                                                     2100
                                                                     2160
ttctqctact qccaccttcc ctgtcttgtt ctcatatctg cttcgcctca gaaccagaag
ctggcaggac acagactgat gccctagagc atccacagaa gttcctttaa gggcagggaa
                                                                     2220
                                                                     2280
aatqcctqtt ttgtttctgt ttgtttatct ttgtttatct tctagcacct agggcaattc
                                                                     2340
cgggtacaaa atatgtactt agtaaggatt tactaatgga ctgacttgct cttatgataa
gacatgtgac cacagataac tttggggtca cattetttta getetcaatt ggaggagaga
                                                                     2400
gaacatttct caccaaatgt tggctgtaaa tatcctaagg aaggatttga ctggatcagc
                                                                     2460
cttggagtta ggagggcagg gcctgtgatg ggcagtttca cctgaatttt atggttagag
                                                                     2520
ctgaggagga gccatcttcc aagagaaaag ggagaagtgg ctgggactga cctgctttga
                                                                     2580
cttcttaaat tatatccatt gccattccat gagacctcgc ttcctgccag gatcgggggc
                                                                     2640
acacaggage catgtggtet etgecageeg gtegeeteea teagatteet tttggggget
                                                                     2700
tctcctctag aggctccaca tgaagtccca gtgctacagt cctagttatt ttgccttctt
                                                                     2760
ctgcctggtt ttctttcaga tcacctcagc cagttctcag acacttaggg gacatgttct
                                                                     2820
                                                                     2880
ctgcaggacc actcttgaggg actcttctgc atattgctga cctgagagga tggcctcaga
gctgacttgg gcaatcctcc ccaacaggaa ggggagacat tgcctgccac tgaggaaaca
                                                                     2940
ggtcatgaag gtggagataa gctgcaaggg gcgaagcaac tttatgtcag tggaaaacgt
                                                                     3000
gtctctttaa agctgctatg tgaacagctt ttacagtcat taaatttacc taaactaagg
                                                                     3060
                                                                     3064
ttaa
<210> 12872
<211> 3064
<212> DNA
<213> Homo sapiens
<400> 12872
                                                                       60
ctcactgcaa cctctgcctc ccaggtttaa gcgattctcc tgcctcagtc tcccgagtca
ctgggactac agatgtgcgc caccacaccc ggctaatttt tgtgttttca gtagagacgg
                                                                      120
ggtttcgcca tgttgtccag gttggtctca aactcctgac ctcaggtaat tcactcgcct
                                                                      180
cagcctccca aagtgctgga attaacaggc gtgagccact gcgcctggcc agaaaaactt
                                                                      240
ttttattctc tggatagttt agtttcacta ctaagatgtg gccttctgtc aggaattgct
                                                                      300
agtgaatata tcccaaggaa ccgatgagca caatttccac cctccaagaa cttatgactg
                                                                      360
                                                                      420
tgacaaatcc ataaactctt ctatttggta gtggattcca ggccacatgt gagttctggg
aactgttcag tggacagttc ccaggttact ctctttgcct gacttcatgg agttttatgc
                                                                      480
                                                                      540
tacacatgca agtgttagtg ttcagtgaag actcataagg accccctgca tatttctgaa
                                                                      600
attettttte egetttgete eettetetet agaatttget teacagttte taactattte
```

660

720

tgagctctcc cctcctgctt cacaggctcc cgtctggcat gtaccttctg gcagaaagca

```
780
ggggtgattg gggggctcac tttgttttcc ttctctcaca gctcacagtc ttgtatgatc
                                                                      840
tcttgtccag tatccgaaaa cagttgtttc atatatttta cccaatttgc tggttattat
                                                                      900
ttataaggct gaagggtaaa cttgtttctg tctctttacc atggctggaa gagaagggtt
                                                                      960
tccqtagact ctagaagtta atcccatcat agtgatgtta gtatcttcct ggctctgtct
tctgtgtgtt gtgttggaga ttctgccttt cagtctgtct attcagtgag ggcaagtaat
                                                                     1020
gcaggccaaa caatcccaga acattcattc ataagtgact agtatgagac tgggtgaagt
                                                                     1080
gaaagttggt tttccaaatg catcgctcat aagtctctgg ctttaggcct gttggaggtc
                                                                     1140
                                                                     1200
cattcctgca gaaggcagtt ctgcacagac ttattgatta attgattcat tataatatag
                                                                     1260
ttagcaaaac tttacagtgt ttctgttgtg ggccatacac tgcccttgct ggtgaagcag
                                                                     1320
cagcaaacac tgagtcttca gtgattcctt ggttaaggaa tgctctgtgg gtcagactct
                                                                     1380
tggggatccg agacagagaa ggcacagttt ctaccctcca agaacttaca actgtgacaa
                                                                     1440
atccacgaac tettetetet tetttetgea geteagtaaa egetetgeea etgacetgtg
                                                                     1500
tqqcaqqaat gatggaaacc ttaaggtgat cttccctgat gcagagatgg aggatgtcaa
taaccctggg ctcagggtca gagcccagcc tggggactat gtgctggtga aggtgaggag
                                                                     1560
tccttttggg cttttggctt gcactgtgaa atgagtgttg gtttggatat ttgtggtaat
                                                                     1620
aaagtttttt cctagagaca cattttagta aaataaaaat cccctctcaa ccagtacaat
                                                                     1680
ggaagggcac tttggattgg attttagact gctccttact aatgccttct tattcttctt
                                                                     1740
acctattctc ctgccctgga agcgttcttt gtgggaattt ggtgagtttg gagtatgcag
                                                                     1800
tggcatgtag tttctcgctg cagagaggcc aggaggtgga gtgatttcga gtgagtagag
                                                                     1860
agtgttccct gttggagatc aacattttct ttgtgatctc tgacggctca ggcctcttta
                                                                     1920
acttacatgt gctcgagttt cttgggtctc ttccctggac tcacagatca gctatatggc
                                                                     1980
tgtgggattt tctctcctt tctttctct tttcttctc cctttcactg gcgatatgct
                                                                     2040
tctcttattg tctccttcca tttcttcctt tcttctgcct tctcttctca cactgcccag
                                                                     2100
ttctgctact gccaccttcc ctgtcttgtt ctcatatctg cttcgcctca gaaccagaag
                                                                     2160
ctggcaggac acagactgat gccctagagc atccacagaa gttcctttaa gggcagggaa
                                                                     2220
aatgcctgtt ttgtttctgt ttgtttatct ttgtttatct tctagcacct agggcaattc
                                                                     2280
                                                                     2340
cgggtacaaa atatgtactt agtaaggatt tactaatgga ctgacttgct cttatgataa
gacatgtgac cacagataac tttggggtca cattctttta gctctcaatt ggaggagaga
                                                                     2400
gaacatttct caccaaatgt tggctgtaaa tatcctaagg aaggatttga ctggatcagc
                                                                     2460
cttggagtta ggagggcagg gcctgtgatg ggcagtttca cctgaatttt atggttagag
                                                                     2520
ctgaggagga gccatcttcc aagagaaaag ggagaagtgg ctgggactga cctgctttga
                                                                     2580
                                                                     2640
cttcttaaat tatatccatt gccattccat gagacctcgc ttcctgccag gatcgggggc
acacaggage catgtggtet etgecageeg gtegeeteea teagatteet tttggggget
                                                                     2700
tctcctctag aggctccaca tgaagtccca gtgctacagt cctagttatt ttgccttctt
                                                                     2760
                                                                     2820
ctgcctggtt ttctttcaga tcacctcagc cagttctcag acacttaggg gacatgttct
ctgcaggacc actctgaggg actcttctgc atattgctga cctgagagga tggcctcaga
                                                                     2880
gctgacttgg gcaatcctcc ccaacaggaa ggggagacat tgcctgccac tgaggaaaca
                                                                     2940
ggtcatgaag gtggagataa gctgcaaggg gcgaagcaac tttatgtcag tggaaaacgt
                                                                     3000
gtctctttaa agctgctatg tgaacagctt ttacagtcat taaatttacc taaactaagg
                                                                     3060
                                                                     3064
ttaa
<210> 12873
<211> 1654
<212> DNA
<213> Homo sapiens
<400> 12873
                                                                       60
qctcaqtaaa cgctctgcca ctgacctgtg tggcaggaat gatggaaacc ttaaggtgat
cttccctgat gcagagatgg aggatgtcaa taaccctggg ctcagggtca gagcccagcc
                                                                      120
                                                                      180
tggggactat gtgctggtga aggtgaggag tccttttggg cttttggctt gcactgtgaa
                                                                      240
atgagtgttg gtttggatat ttgtggtaat aaagtttttt cctagagaca cattttagta
                                                                      300
aaataaaaat cccctctcaa ccagtacaat ggaagggcac tttggattgg attttagact
                                                                      360
geteettact aatgeettet tattettett acetattete etgeeetgga agegttettt
gtgggaattt ggtgagtttg gagtatgcag tggcatgtag tttctcgctg cagagaggcc
                                                                      420
                                                                      480
aggaggtgga gtgatttcga gtgagtagag agtgttccct gttggagatc aacattttct
ttgtgatctc tgacggctca ggcctcttta acttacatgt gctcgagttt cttgggtctc
                                                                      540
ttccctggac tcacagatca gctatatggc tgtgggattt tctctccctt tctttctctc
                                                                      600
tttctttctc cctttcactg gcgatatgct tctcttattg tctccttcca tttcttcctt
                                                                      660
tcttctgcct tctcttctca cactgcccag ttctgctact gccaccttcc ctgtcttgtt
                                                                      720
                                                                      780
```

ctcatatctg cttcgcctca gaaccagaag ctggcaggac acagactgat gccctagagc

```
840
atccacagaa gttcctttaa gggcagggaa aatgcctgtt ttgtttctgt ttgtttatct
                                                                      900
ttgtttatct tctagcacct agggcaattc cgggtacaaa atatgtactt agtaaggatt
tactaatqqa ctqacttqct cttatgataa gacatgtgac cacagataac tttggggtca
                                                                      960
cattetttta geteteaatt ggaggagaga gaacatttet caccaaatgt tggetgtaaa
                                                                     1020
tatcctaagg aaggatttga ctggatcagc cttggagtta ggagggcagg gcctgtgatg
                                                                     1080
                                                                     1140
ggcagtttca cctgaatttt atggttagag ctgaggagga gccatcttcc aagagaaaag
                                                                     1200
ggagaagtgg ctgggactga cctgctttga cttcttaaat tatatccatt gccattccat
gagacctcgc ttcctgccag gatcgggggc acacaggagc catgtggtct ctgccagccg
                                                                     1260
gtcgcctcca tcagattcct tttgggggct tctcctctag aggctccaca tgaagtccca
                                                                     1320
                                                                     1380
gtgctacagt cctagttatt ttgccttctt ctgcctggtt ttctttcaga tcacctcagc
                                                                     1440
cagttctcag acacttaggg gacatgttct ctgcaggacc actctgaggg actcttctgc
                                                                     1500
atattgctga cctgagagga tggcctcaga gctgacttgg gcaatcctcc ccaacaggaa
                                                                     1560
ggggagacat tgcctgccac tgaggaaaca ggtcatgaag gtggagataa gctgcaaggg
                                                                     1620
gcgaagcaac tttatgtcag tggaaaacgt gtctctttaa agctgctatg tgaacagctt
                                                                     1654
ttacagtcat taaatttacc taaactaagg ttaa
<210> 12874
<211> 1938
<212> DNA
<213> Homo sapiens
<400> 12874
cccaactgag ccctacctcc cttaccaaag aagttcatgg ccaagccatt tttatttagc
                                                                       60
aaataagggc ttgttttcct tgattgtcca aagcacaagg ggagaaaaac cacccattgg
                                                                      120
cttcatgttt acctgcactg cggggctgtc ttgtctgttt cagttctgtt tcacatgtgg
                                                                      180
                                                                      240
agttttcact gatttcaaga aggaatgtat gcatggagtt gagcaggata cagtatcctg
                                                                      300
aatgagggct gaatgttctg cactagaagt gagcgtatca agtctttgta actaagaatg
                                                                      360
tgatgttaga ttgtagctga ggggaagaaa cacaaatggc ttgggttgta tctaaatcct
gggtctgcca ggtgaaaact tagatgttgc tttcaaatga cactaatgat ttctttcagt
                                                                      420
                                                                      480
gctgtttagc atgagtggtc attgcaaaga gctgtgacca ctgtactacc cagtatggtg
gctactggtc ccatggggct cttgagcact tgaaatatgg gtaatctaaa tggagatgtg
                                                                      540
                                                                      600
gaaaatacaa actggatttt aaagacttag taaacttagt attttgaaag agcaaaatag
cccattgaca attttatgtt gattatacat acattaattt tacttgttat cttttaccat
                                                                      660
ttttaagtgc agctactaaa aatttaaaat tctgtatgtt gcttacatta tattgctctt
                                                                      720
ggacagcact atactaaagg cataaatgta agattgtgtt tcagagggca cccgagcact
                                                                      780
                                                                      840
gcttggttta tatgtatttt ctaggccttc cctttggttc cctggttacc tttaaaaaata
                                                                      900
catgtcatga tatagacatg gcatatctga gacaaacctt ggactgagac aaacctgagt
                                                                      960
ttcaatctca attgtttgtt tgtggcttgc ctctcagcat cttaaattct ctgaatctta
                                                                     1020
agttcctcca ctgtgtaaaa gaaataatat ccctctgacc tcactgtggt taggcaagag
acaatgcagt gattttttca gtaatattat gagacatttt attactataa ttaaatgatt
                                                                     1080
gtattttccc cagattgaca aattcaaatt ttctattttg aaatcttatt gcaaatgtta
                                                                     1140
                                                                     1200
aaaaaacaaa caacccaccc tttggctcct gttatgttgt cttccagctg ctagtaatgg
                                                                     1260
aattgggaca gctaatgttc cctgagagcc atggggaacc aggcagtgtg cttttcagga
actgtcttac tttatcctca caacaatccc aaaaggaaaa acctagtttt atctctattt
                                                                     1320
aatagctgca gtgactgagg caccgcaagg ttaggtgact tgcccaaggt cacacagcga
                                                                     1380
agcattgage cegggeagte cagetetaga geegtgttet ttgeeteege ceaatattgt
                                                                     1440
ccaccagtga ggagaagacg gaaccaaaga accaacagtg aatgaatact aacaggaatc
                                                                     1500
ctggctttca tggacatcta ttcttgtgat ttgacagtgt atatgtgaga tacttcctct
                                                                     1560
                                                                     1620
tagaatgctt tttctaattc atacagtagg cttaaatatg tcatggtttt agagttttcc
ttaaggaata cgttgattcc caggcacatt acagtctgaa tcagtcttaa gaaattccag
                                                                     1680
gatagaggtg gaagaagttt tagtaaattg ttgtgcagca tggtgaccgc agttaataat
                                                                     1740
aatgtattat atatttcaaa attgctgaaa gaggagattt caaatgttct caccacaccc
                                                                     1800
                                                                     1860
acacacaca aaaaatgata agtaggtgag gtgatggata tattaactag cttaatttaa
tttttctcaa aatatcacat tatatttcat aaatacattc aattattatt agtcaattgc
                                                                     1920
                                                                     1938
aaaaaaaag aagaagaa
```

<210> 12875 <211> 1938

<212> DNA

<400> 12875 cccaactgag ccctacctcc cttaccaaag aagttcatgg ccaagccatt tttatttagc 60 aaataagggc ttgttttcct tgattgtcca aagcacaagg ggagaaaaac cacccattgg 120 180 cttcatgttt acctgcactg cggggctgtc ttgtctgttt cagttctgtt tcacatgtgg 240 agttttcact gatttcaaga aggaatgtat gcatggagtt gagcaggata cagtatcctg 300 aatgagggct gaatgttctg cactagaagt gagcgtatca agtctttgta actaagaatg tgatgttaga ttgtagctga ggggaagaaa cacaaatggc ttgggttgta tctaaatcct 360 420 qqqtctqcca qqtqaaaact tagatgttgc tttcaaatga cactaatgat ttctttcagt gctgtttagc atgagtggtc attgcaaaga gctgtgacca ctgtactacc cagtatggtg 480 540 gctactggtc ccatggggct cttgagcact tgaaatatgg gtaatctaaa tggagatgtg 600 gaaaatacaa actggatttt aaagacttag taaacttagt attttgaaag agcaaaatag 660 cccattgaca attttatgtt gattatacat acattaattt tacttgttat cttttaccat 720 ttttaagtgc agctactaaa aatttaaaat tctgtatgtt gcttacatta tattgctctt 780 ggacagcact atactaaagg cataaatgta agattgtgtt tcagagggca cccgagcact 840 gcttggttta tatgtatttt ctaggccttc cctttggttc cctggttacc tttaaaaata 900 catgtcatga tatagacatg gcatatctga gacaaacctt ggactgagac aaacctgagt 960 ttcaatctca attgtttgtt tgtggcttgc ctctcagcat cttaaattct ctgaatctta 1020 agttcctcca ctgtgtaaaa gaaataatat ccctctgacc tcactgtggt taggcaagag 1080 acaatgcagt gatttttca gtaatattat gagacatttt attactataa ttaaatgatt gtattttccc cagattgaca aattcaaatt ttctattttg aaatcttatt gcaaatgtta 1140 aaaaaacaaa caacccaccc tttggctcct gttatgttgt cttccagctg ctagtaatgg 1200 aattgggaca gctaatgttc cctgagagcc atggggaacc aggcagtgtg cttttcagga 1260 actgtcttac tttatcctca caacaatccc aaaaggaaaa acctagtttt atctctattt 1320 aatagctgca gtgactgagg caccgcaagg ttaggtgact tgcccaaggt cacacagcga 1380 agcattgagc ccgggcagtc cagctctaga gccgtgttct ttgcctccgc ccaatattgt 1440 1500 ccaccagtga ggagaagacg gaaccaaaga accaacagtg aatgaatact aacaggaatc ctggctttca tggacatcta ttcttgtgat ttgacagtgt atatgtgaga tacttcctct 1560 tagaatgctt tttctaattc atacagtagg cttaaatatg tcatggtttt agagttttcc 1620 ttaaggaata cgttgattcc caggcacatt acagtctgaa tcagtcttaa gaaattccag 1680 gatagaggtg gaagaagttt tagtaaattg ttgtgcagca tggtgaccgc agttaataat 1740 1800 aatgtattat atatttcaaa attgctgaaa gaggagattt caaatgttct caccacaccc acacacacaa aaaaatgata agtaggtgag gtgatggata tattaactag cttaatttaa 1860 tttttctcaa aatatcacat tatatttcat aaatacattc aattattatt agtcaattgc 1920 1938 aaaaaaaag aagaagaa <210> 12876 <211> 1930 <212> DNA <213> Homo sapiens <400> 12876 ggattagaag gcattgatgt attaatagct ttttttttt tttttctcaa gcatggtact 60 aattcttagg tggggtcaag atgattgcgg ggggcagtgg gggcagcctg tggtcaacgt 120 tcaaagcctt ccagtcattt agaaagttga aatgtgcttg gtgctgggct agaatcatta 180 ggaggaaata gctgcaaacc tggaaacgtc cctggagaat acttaattca ggaataaagg 240 tttggattga tgagggctaa aataaaactt ggcagcgaca gcattctagt aacttttagc 300 cacttctccc catctcactg gggtattcct gctggtatat tcactagcct gagctctgct 360 cctgagaggg ctgcaggagc tgggtgggtt gggagacaca ggtgtgtggg aggcgccttc 420 accaagtgcc gcacaattgc cgggtacccc tctgtgcctt taactggtcg gtaaacagaa 480 540 agcaggatgt gcttatctga atagtgacaa cagttgcaag cactcagtca caaagttcag cattctggct ttagatggac cagcgtgggg ctctggaagc tggtgacttg ggagtgcctg 600 660 ccgtacacat gggtggggaa gggatggaaa gtttgtcaag gacttgccga gttattaagc 720 aaagactctg taagtgcgtc agaatgggaa ggcagctcag aacctttcca ctccaccctt tttgttgttg gaaataggta aactgaggcc agtgaacagg aatgtgtatt tcaataatac 780 840 caaagctaac ttctatcact gtgagttgtg tgccaggccc tgggttcact gccttctgag 900 tgttgtctct tttaatctct gccacagctc tgtggggtaa gcactggtgt tatacccatt tttcagataa ggaaacagag cctcagagag tcaggttact tcctcaaggt catagaacta 960

1020

gtaagtcaca gacctagggc acaggagcag gtctgtgtgg gggtcagagc cacagctgtc

```
1080
cccacacgc tgggggcctc ctccacaaag cggtttcagg tggggctcag cccacctctg
ggggaaccca ttcatatact atgcaaggtt tcacaggtgt gtgaattcat tttccattgc
                                                                     1140
tgcgtaataa attaccacaa acttaatagc ttcaaacaac acatatctgt cattccacag
                                                                     1200
tttctgtgga ggccaggcct ggttttcctg agttctctgc tcagagtctc acaaatctgt
                                                                     1260
actcaggggg tcagcctgat tatggtccca cctgaggctt gggatcccct tccaaactca
                                                                     1320
ctaactgttg gtggaattca attcatgcag ggagagcact gaggctgcaa gctcatggag
                                                                     1380
accaccact gtttcctatg tgtggccctc tccacaacac agccctttgc ttcttcaaaa
                                                                     1440
                                                                     1500
cccaaccaaa gaatctctgt cttcaggaac agcctccgac cctctttgaa ggggctcacc
                                                                     1560
taattaggcc aggcccacag aggaaaagct ctcttttgat taactcagag tcaactgatt
                                                                     1620
agggacttta tacctgcaaa atctcttttg ccacacagca taacttaatc aaaggaatgt
attccatccc attcatggat cctgcccata ctcaagggaa ggccataata caagcatatg
                                                                     1680
gtcattaggg gccatcttag tcactactgt tcgtggattg ttctccagct tcctggagga
                                                                     1740
                                                                     1800
gaggagagca ggagacagag ctaagagtgt ttgtaaaata gggcagtggg aaaaggtagg
                                                                     1860
tcttqtqaqt aqcaggctac ttaagatgcc tagtgggtct aaatgtcaaa tgctattggc
                                                                     1920
agattttccg tgcaaggtat gaccaaaaaa taattatttc attaactttg tgcaaaaaaa
                                                                     1930
aaaaaaaaa
<210> 12877
<211> 5741
<212> DNA
<213> Homo sapiens
<400> 12877
                                                                       60
gaggattttt gcagcgtttg cagaaaaagt ggccagttac tgatgtgcga cacatgttcc
cgtgtatatc atttggactg cttagacccc cctctgaaaa caattcccaa gggcatgtgg
                                                                      120
atctgtccca gatgtcagga ccaggtactg tgggtgggtc caacagggga ggggccgagg
                                                                      180
aggacaaaga cacggccatc aggaggaatt cctttcccgg ggaaatggca gtctcttctc
                                                                      240
teteceagte egteteeggg etgeatette eetgtttatg acacageaeg eaggegeatg
                                                                      300
gccttcattc cctcagaagc cctctgccat attactgagc tggatagatg cttccttgta
                                                                      360
tttgaaatga cttgtcttct ctttaaaagt caagaccctt taaagtccag tgtgcctcat
                                                                      420
tctctaggaa tggtccagac caagtatatg gttttaaaac tcttctttgg gaatgaaatt
                                                                      480
aagggaaatt gcccagttga ttaattaaaa taacaccctg ggccaggcgt ggtgactcag
                                                                      540
                                                                      600
gcctgtaatc tcagcacttt gggaggccaa ggcgggcagg tcacctaagg tcaggagttc
gagaccagcc tggccaacat ggcgaaaccc catctctact aaaaatataa aaattagccg
                                                                      660
ggcatggtgg caggcgcctg taatcccagc tacttgggaa gctgaggcag gagaatcgct
                                                                      720
                                                                      780
tgaacccagg aggtggaggc tgcagtgagc ggaggtcaca ccactgcact ccagcctggg
tgacaagagc gagactctgt ctcaaaaaaa taatactaat aataaaacaa cacccatttc
                                                                      840
acttttaacc tattttgtta tatcaggctc agagaactaa gtgtaaagtg ctgtcgatat
                                                                      900
tttatagact taaaaggcaa acatattagt aactgtccta gcctccctcg ttctctctt
                                                                      960
ggtttctggt cgccttttct caactatgca tgtatattta tgtctttatg attttattat
                                                                     1020
aagctgtctc aagtcttttt tagaggtagg caaagtataa ataataaata agcaagccca
                                                                     1080
                                                                     1140
atagctcagc aagtactggg attctgctca gttctttgga atcctgcttt gaacaaattc
tggttttccc ttgtaatatt gtcctcatcc tgcagcctgt ggtgcagcgg aacacttctc
                                                                     1200
tcagtgtcct cctcctgatg ctgctttgtg accttctgac gatttttgac atagggtcta
                                                                     1260
gattatactt tagtatttgg aactaatatt taattttctt ggtcaggctg tctttgaggg
                                                                     1320
acatcgaaat ctaaaattga gacaggcagc ccatgtcagg tcaaggacga aactgccagt
                                                                     1380
ggctgctgcc atcatgctga tgtgcagctt ttgtgttggt ggttctagct gtcgggagtg
                                                                     1440
                                                                     1500
gttgggtgtc atgtggcgtg tgtgaaaaga taggaatgct cagccaagtc ccagctcctt
ctaagcctgg gctcaagtgt cctggctctt cctgccttga acttgattct cctaagctga
                                                                     1560
tatttggaac tttttagtcc agaaactata gaccagggtt ttgcaacact gctaccataa
                                                                     1620
atccttcctg gattttatct gccagtagcc acagatacca ctgctagctg ttacatagag
                                                                     1680
                                                                     1740
gatgtgtgtt taaacctcct tctcaaggta aaattctaaa aatcttttca gatgctgaag
aaggaagaag caattccatg gcctggaact ttagcaattg ttcattccta tattgcctac
                                                                     1800
aaagcaggta aggagttatc catacccact tttttgtaag cttccccttg tttgaaaaaa
                                                                     1860
                                                                     1920
atactggcag tatttgtttt attctcaaaa gggaatttaa atttaaaaat gaaaaccttt
tgcccttaac tattggagga aacaaagcaa atgaaaactt tttattggat aaagtggaaa
                                                                     1980
acttctgtag catttattat tattattatt catttatttt ttgagacaag gtctcactgt
                                                                     2040
                                                                     2100
atcaacccag gctcgggtgt tgtggcatga tcacagccca ctgcagcttc ctcctcctgg
gcccagtcga tcctcctacc tcagcctccc aaatagctga gactataggt gtgtactacc
                                                                     2160
```

atgaccagtt aactttagta ttttttggtg gagacaggtt tcgccatgtc acccaggctg

2220

2280 gtctcaaact cctgggctca agtgattcac ctgccttggc ctcccaaagt cctaggagta caggcatgag ccatcatgcc tggactgtag cacttcttgg gggaagaaaa tgagatgtgg 2340 2400 tatctcattt atgtaaagcc agacccaagc cactgacagt tttagcatac tgtacacaga 2460 aaaaggaaaa gtccaggtgg gcagattctc tgcactgggt tgtaggactc atgggagctc 2520 tggggaaaat accttctttg gcaggcattc tgagcacaga ggacatttca aagaattaat tgtcaaaaac cgttcctttt ttttttttt tttttttta gcaaaagaag aagagaaaca 2580 2640 gaagttactt aaatggagtt cagatttaaa acaagaacga gaacaactag agcaaaaggt 2700 gaaacagctc agcaattcca taagtgtaag taaacctcat gccttcagca gtcgatacat aggtgcagag acctaggcct ttccaatata cgtaacagta cgtgtgggcc ccaggctgtt 2760 tcgggtcctt ctgtttatta acgtgattaa cttgggcaaa tgcagtttgc catccagtta 2820 2880 gagttcagac ctcaggtaca ggcggccagt tggtaggtgg tgccttaccc aagctctgta acatcctctt ggctttaatc agagagagga ttttcagtct tcaggctgaa taagtaacag 2940 3000 ctacaacagt gtagccatgg ccctgcgtat tcctgacagt gtgtgggggg agtgtagcgc ctcacctgac actgagcaga cacagaccag gtcccctcgt gtgattcttc ctagtcacct 3060 3120 gagegagtgg geceateegt aeggeeetee etegetettt etteeaeaee atgetgattg catttcccgg ttttcctgac cagtgtgagg aagcgggctt tctagagaca agtattggaa 3180 3240 gtaagtactg cccagcccgg cctgtccaag tgggaaagag ggttgtattt gcagcagggg 3300 gacagagget teteceagge aaggageeag tettettte cattgagtag gteaceettg 3360 ttggagtgaa gtgacctcag ccctcatgga taccaggtgg tgccttgtac ttggtggcag 3420 ttgaactgtc ctgcttacct gctttctcct cctcaccata cctacccatg gcatgcagat 3480 ttaacacctc tttcctctt ttccctgcct aaaatagaag ccagcaggtg tgggaagctg agggcaaaag ggcaaaagac tctaagtccc cggctgagca gaaggtgtac tggctgcagg 3540 3600 cetttgteet tggggetteg atecteetaa atgetgetgg cetgtegtet caetteetge 3660 tgccctcaga tggaatccag atagcactgt gtgttttcca ccctggagag ctcagtccag 3720 tcctqaaqqc tccccagtta gcatgacaga agcatatcaa aacctgccta aacaggctgc 3780 aggacagctg tgggaacttt ttttttttt ttaaacaacc tttgtttgga agtctgatgg 3840 eggetetgee ggtttgtttt taagegttag tacteetgtg tgttggtgee egeatgetet ttctccctct gttgcctctg ggacctggga ccccccagcc tacccactcc acccgccctg 3900 ttccttaggt ggtagccgcc cactccactg aggaacacag caaggcccag gggctgcaca 3960 4020 caggcctgtt agaaaccagg cggctcagtg ccactgccct tgtcatttgc tgcagaaatg 4080 4140 catggaaatg aagaacacca tcctggcccg gcagaaggag atgcacagct ccctggagaa ggtaaaacag ctgattcgcc tcatccacgg catcgacctc tccaaacctg tagactctga 4200 4260 ggccactgtg ggggccatct ccaatggccc ggactgcacc cccctgcca atgccgccac ctccacgccg gccccttccc cctcctcca gagctgcaca gcgaactgta accaggggga 4320 agagactaaa taacagagcc cctctaggag aagccacggg atcccggcgg caaggagaac 4380 4440 agaacactga agactctaga aaagcaaagc cggatttctg gaaagtgcag aattcttttg 4500 gttctttggt tccagagaga gagaagatgc ttgtgccagg tggcaccaga gtttgccaat tgatccttct tattctgtgt gtacatgcaa agattggacc atgttacatg aaatagtgcc 4560 agctggaggt tctttgccag caccatgcca agtgaaataa tatatttact ctctctatta 4620 4680 tacaccagtg tgtgcctgca gcagcctcca cagccacgat gggtttgttt ctgttttctt gggtggggag cagggacggg cggagggagg agagcaggtt tcagatcctt acttgccgag 4740 4800 ccgtttgttt aggtagagaa gacaagtcca aagagtgtgt gggctttcct gtttctaaac tttcgctact ataaaaccaa aaaaaggaat tgagatttca ccaaccccag tgcccagaag 4860 agggaagggg agtggctgga gggagcaggg ggtgggacag tgtatcaaat aagcagtatt 4920 taatcacctc tggcgggggc ctcgtgcaag gggagactga caccaagaac agccagtagg 4980 ttettetece etgeactetg etceetgege ggtaaceeca ceacteetga ageetgeeca 5040 gtctccttcc ttccctgctt ggtgagtcgc gcatctccgt ggttatcccg ctgtctcctc 5100 tccaagaaca agcagagccc gggccactgg cccttgccca aggcagggaa gaaggatgtg 5160 tgtgtccagg aaggaaaaaa aggtggatca gtgattttac ttgaaaacaa gctccatccc 5220 5280 ttttctatat ttataagaag agaagatctt gagtgaagca gcacgcgacc caggtgtgtg tgaattgaat ggagacgttt cttttctctt tctttaattt ttgtttttgt tcttttttc 5340 tttaaggaaa gttttatttt actgttcatt ttactttctt ggtaacaaaa actaaaataa 5400 ggaatagaaa agctgttttt caggctgaca gtccaattaa gggtagccaa gaccttgcat 5460 ggtagagtag gaatcatagt gtcagtgagg tcccgtgagt ctttgtgagt ccttgtgtca 5520 tcgttcgggc actgtttttt tatgcaaggg caaaaatctt tgtatctggg gaaaaaaac 5580 ttttttttaa attaaaaagg aaaataaaag atattgaggt cttcctagtg ttacttaaat 5640 taagatcaag gtaagaaaca ttgtaaaaaa aaattacaaa agtgctattt gtttcctaaa 5700 5741 aacagtgatt tctattaaaa aggtgtcaga actggagaaa a

```
<210> 12878
<211> 3188
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (2827)
<223> n equals a,t,g, or c
<400> 12878
                                                                      60
gtgtgtgtgt ctctagactg gtgggccagt ctccttgaag gacagaggcg gagctcccca
cccttctctc tcctcagaaa agaccgtgct ctcttcttgg tgcagggatc ttgtctcctg
                                                                     120
ttgtgaagcc caaatggaag cgtggatggt atcagggccc tacccgtggt cttctcagat
                                                                     180
                                                                     240
tctgctagag caaaaggctg gtgcctaaat aagatccctt cctttggtgc tgcttttggt
ctttcagcca ccagcattat gagtgcctgg gggacacctc cgagggaact ggccagcgga
                                                                     300
                                                                     360
gctctgtggt gcgcacgcac cctggccgtg acaggagggt gcgggagtac aggctggctg
                                                                     420
catcagccct tggtgcttag aacagaggag gagtgacatg ttttgagggt acgtctctga
                                                                     480
gacagagece cagegtggee ttegetetgt ettgeetttg gggagaggte tgaageteee
                                                                     540
600
aagcetectg ggtgaeeetg ggetagaatt getgegettg ceteggettg geeggttgtg
                                                                     660
gcctctcctt gagaaaacca gggttgtgaa agactcagac cattctctca tcttgccttg
                                                                     720
tcagaagtaa attgtgtcag atttgtgctc tcgctggaga cctttgcccc ttgcgtgccc
                                                                     780
ctggccgatg ggagggcggt ggaggctctg taccctggcc ctgctggagc atctcccca
                                                                     840
agcccactcc aggccctggg aatggccaga gtctaggaga ggtagaaacg atcctatcag
                                                                     900
cttctctcc acccaattag gcccagagag acaaagacag atctgaaagc aaatgcaaca
                                                                     960
gagaagagac acttettaga gtaaaatgtg teteatetet ateageeate geettteate
                                                                    1020
ttcccagggg cctcagaaga aggaattaag ttaggctgaa caggcctcag agttaggccc
tggctgcttg attggctgag ggggaaagag ttcccttttc tcattcagaa accaaggtgc
                                                                    1080
tgtgtctagt cagggagcct tggagatgcc tggactagtt ggaggaatcg ttggcagagg
                                                                    1140
atcagagacc agcagcaggc tgtctgccct gtctagagct cttcccctca acttgtctgg
                                                                    1200
gcccatctgg gggttgccac acaacaccta acttaccttt tcctgaaaga agttgggaaa
                                                                    1260
                                                                    1320
ccatcatcac tagaggcctt tgctcagaga ggagctgcct taggagtctt gggtcggagg
                                                                    1380
acggggctag gaattgacca gggctttgcc tgccgccctc agcagtgtcg ggtacattct
gacctcgcct gcagctgggc tgtggattct tcctgacatt cagatgtgag ctgttttggg
                                                                    1440
agtcagctag tatggagtac gagatgcaac ccagccccca aacctacatt ctgcactcaa
                                                                    1500
                                                                    1560
attccaaaac actgctttac tgtaaagaag aggcccctgg cacccaatct ccctgtcctt
                                                                    1620
cactgtcccc tcagacctgg gcggggaggg gggggggcct gtgaccacct gagacatacg
                                                                    1680
ctcgggacac tgccccaccc cagccacctc cacttgcttc ctcctccttc cctccgctgc
                                                                    1740
tctttcccca cggcccagaa tttagctgct ctgacagcca cttttgagac cagctggctt
tgtagtcact tcaaagagct ggagcggctg cccactgggc cctgactggg agtcccctgc
                                                                    1800
                                                                    1860
cagetectga teaggegetg egecetggtg geagtgatga etgggagtee eetgeeaget
cctgtccagg cgctgcatcc tggtaacagt gaggccatgt tgctgtcatc tccacctctg
                                                                    1920
cattcttgct gcctgtgggt cctttttctt tcatggagcc tgctgggtct tgtctcacct
                                                                    1980
gtgctgagct cctctggggt tttgatttct tccttcctta tcaggccctt tggggtaagc
                                                                    2040
ctgctggttg tacctgacat agggaggcag ttaggggcag tccctggtgg ggccgccctg
                                                                    2100
gcagcctcca gctggcacca tcgtgtgcct ggtttccctg caacacctgc ctctctgtcc
                                                                    2160
ctgctgctgc ttggctcagg cccaacaggc agcgtgcatg gaggtggtta cacacagctg
                                                                    2220
tttccgtgag ggtgaccgtg tctgcagcac gcttccgtct ccgcatgcac ggctgcctct
                                                                    2280
ccagccacct ctgatacttc tctcttgggg ccatcagagc ctcccttggg ctgtcacctc
                                                                    2340
ccagctcaca cacactcttc agtggtttcc tctcttcatt ctcttatagg gcgtggtcct
                                                                    2400
tcttatttat ctaaagggct gaatttagga gactttttac ccaggggcaa aaggctctta
                                                                    2460
gggtaatgag atggatggtg gcccaggtgc attttccagg gcctgggttc tccagatccc
                                                                    2520
                                                                    2580
gtggcttctg ttgagtggag gcaactttgc tctgtgtgaa cctcgcccct gtccctctgc
cgggcacccc tggcaggaag caggactccc atcctcaccc tgacttagac tgtcctctga
                                                                    2640
                                                                    2700
gtcagctcct ctccaagaca ggagtgggca gccctgggca gtcttctggc cccttgctaa
                                                                    2760
agtgaggggc aggaagctgg ggctgccctc cagaaagccg gggtaggaac tctgaaaaat
                                                                    2820
acctcctcta aacggaagca gggctctcca gttccacttg gcgccccctc ccacaaggcc
                                                                    2880
cttcctncct tgaggacccc caaccccccc ctccccttcc ccagcagcct ttggaccctc
acctctctcc ggtgtccgtg ggtcctcagc ccagggtgag ctgcagtcag gcgggatggg
                                                                    2940
acgggcaggc cagaggtcag ccagctccta gcagagaaga gccagccaga ccccaaccct
                                                                    3000
```

```
gtctcttgtc catgcccttt gtgatttcag tcttggtaga cttgtatttg gagttttgtg
                                                                     3060
                                                                     3120
cttcaaagtt tttgtttttg tttgttttggt ttttgttttg agggggtggg gggggataca
qaqcaqctga tcaatttgta tttatttatt ttaacatttt actaaataaa gccaaataaa
                                                                     3180
gcctctca
                                                                     3188
<210> 12879
<211> 218
<212> DNA
<213> Homo sapiens
<400> 12879
                                                                       60
gttttcttag tcactgttgt taatctctta ttgtgcctaa tttataaatt aaactttatt
                                                                      120
gtgggtctgt gtgtatagaa aaacatattt atagggttca gtacggaggt ttcaggcatc
                                                                      180
cactaggggt cttggaacat attccccaag gataaggggg gactattgta ctgtccccac
                                                                      218
ccagggagcc ttagctatgt ggagtgagta ggggcatg
<210> 12880
<211> 795
<212> DNA
<213> Homo sapiens
<400> 12880
gtcctgatca ccgcactcct catcgtcctc acctaccctg cctggacctt catcgactgc
                                                                       60
ctggactcgg ccagcccct cttccccgtg tgtgtcatag ttgtgccatt cttcctgtgt
                                                                      120
                                                                      180
tacaattacc ctgtttctga ttactacagc ccaacccggg cggacaccac caccattctg
                                                                      240
gctgccgggg ctggagtgac cataggattc tggatcaacc atttcttcca gcttgtatcc
                                                                      300
aagcccgctg aatctctccc tgttattcag aacatcccac cactcaccac ctacatgtta
gttttgggtc tgaccaaatt tgcagtggga attgtgttga tcctcttggt tcgtcagctt
                                                                      360
gtacaaaatc tctcactgca agtattatac tcatggttca aggtggtcac caggaacaag
                                                                      420
gaggccaggc ggagactgga gattgaagtg ccttacaagt ttgttaccta cacatctgtt
                                                                      480
ggcatctgcg ctacaacctt tgtgccgatg cttcacaggt ttctgggatt accctgagtc
                                                                      540
tcaaacagtt ggaaactagc ccactggaca tgaaagccaa gacataggaa agttattggt
                                                                      600
aggcaaatct tgacaactta tttttcttta acaacaacaa aaagtcatac ggctgtcttg
                                                                      660
ctactaccag ataaatgatg ctgctgtgtg aaaggaagaa ctgtctcata gcggtcattg
                                                                      720
gtcgtccgtg gtggttggtt gtgctacagt tgaacccagg ctaaagacca taatccggat
                                                                      780
                                                                      795
ctttaaaggc acaca
<210> 12881
<211> 3465
<212> DNA
<213> Homo sapiens
<400> 12881
ccgcgcccc cccccccg cccggcccct gctcctctcg ctgttgcacg ggctttggat
                                                                       60
ctagtcatgg gctggcagga attgtggcct ggcttaggaa tagctatgag ccccactggg
                                                                      120
ttctggagag ccagtagaga tggggtgatc tgggaggctg gaggtagagc ctttcttttc
                                                                      180
                                                                      240
cgttacaacc ttgcctagca tggagttatt tctaaaatgg gaactttggt ctaggagaag
gggtggcacc atatgaaacg gcattccttg gacagggtga cttccttatc gtttatttgg
                                                                      300
                                                                      360
tgattttttg ttttgttttg ttttgagacag gatcttgctc tgtttcccag gctgtattac
                                                                      420
agtggcacaa tctcagctca ctgcaaactc tgcctcccgg gctcaagcaa tcctcctgcc
                                                                      480
tgagccaact gagtagctgg gactgtaagc atagaccacc atgtgcccag ctaatttttg
                                                                      540
tagagacagg gtttctccat gttgcccagg tacgtctgaa actcctgggc ttaagtgatc
                                                                      600
caccacctc agcctccaa agtgctggga ttataggcat gagccactgt gcccggcctc
                                                                      660
ctccttgtta tgatcaaatt agactgtgcc tggttgggtg gtaagatcac tctgaaagaa
                                                                      720
agctcactgt gaagagatga aaggtggagg cagagctgtg aggtcatggg gaaaagcctg
                                                                      780
ctttccttat aagtcctgct gttcatgttg gaataaggat ctgctcttcc ttgtttccat
                                                                      840
gcattttgca ggattccagg taccattacc acactcttct gacccatgaa accaactggc
tgctcacaca tcaccaaaca ggttgggggt tagccttcag cacaggtgga tacatctggg
                                                                      900
```

```
960
attcactgag attcctgccc tctcctgctt cctagtggtt tgggacaggc cctctgccca
                                                                    1020
tcgtcagcag ttttttgctt tcatacaaac ctggaaggca ctggcatctg cctaggaaag
                                                                    1080
tggatctgtg aagaacagat gaactcaatc ctttctggag tctgacaaag aagggatagg
                                                                    1140
cttccttgac attgcctgtc ctgacaaggc ctccctgaca ttactcctcc aatttcacag
                                                                    1200
ttaccttctq taaatctatt ttctcatcta ctgaatagaa tcaggcgccc tttttgtctt
                                                                    1260
cccacctctt atctcttggc aattttaagg ggaattaatg caagaacaac tttagtgtct
cttgggaaaa caagccaacc aaatacaaaa cccattaagc ctactagggt gagtcctctt
                                                                    1320
aacatgggaa ggcgatgatt atgcaaacac cggagttccc tcctcttcag ttcctaagaa
                                                                    1380
taaagaacag gtatcaagaa ctttctttaa agttagtgta actatagtta acaaagtatc
                                                                    1440
cattgaagtt tagtgcctgt aggactgagc cagtgcttta tcaacccaac acatcatcac
                                                                    1500
catgtgcata ctctagaaaa aaaaatagct tccttaaaag ttacagaggc tcttaacgtg
                                                                    1560
ttaaaaccga aaaatcacat ttttcttgat ttcaaatatg ttctacggcc ttactgttgg
                                                                    1620
gatgatattt agtatgtaac ttagcattcc aatttctcaa gaatttttag gccgggtgcg
                                                                    1680
                                                                    1740
gtggctcatg cctgtaatcc cagcactttg ggaggccgag gtgggcggac cacgaggtca
ggagatcgag accatcctgg ctaacacggt accccgtctc tactgaaaat acaaaaaaat
                                                                    1800
tagccggacg tggtggaggg cgcctgtagt cccagctact caggaggctg aggcaggaga
                                                                    1860
                                                                    1920
atggcgtgaa cccggtgagc ggagcttgca gtgagccgag attgcgccac tgcactccag
                                                                    1980
2040
ctgtttttac ttaaaattct tctcatattt attatagtta gaaggcaaag atcaagatga
                                                                    2100
cctgccgttt gactgctttt acatcaaact ctgcccagta tttgcagcac aactcagggg
                                                                    2160
aagggcctta gcttacaggt actcccagcc ttcatctgcc cctgcagagc agtggctgtc
                                                                    2220
agccggatgc ggcacttttc tgtattttca tccacacagc tgcccagcca gagttcgcaa
                                                                    2280
cactggatat ttacaccaaa taattgtggt tgacttgtct gaagccagct gacaaaagga
                                                                    2340
tcagcttttc ccacttgtat tttttaaaaa gagggattgt gatcattgtc acagagtggg
                                                                    2400
tgctggcctc tcatatatat gatatatata tatcatttta tatatatata tatatcatat
                                                                    2460
acataatttt tactqctqtc tctagtttta agtcccaaca ataggaaggc cgatcagcta
                                                                    2520
tattgatata tttaaggctg tacttaacta atttgggctg aggatgaata tatcagccac
                                                                    2580
agcacattaa agaatgagcc aaggatttgt catggttggt cactttttaa agtatttgat
                                                                    2640
tactgcaact ggagaatgaa aagtgtatat tggtgacgcc aacctcagtt tctgagcact
                                                                    2700
cctgctctgt ggtgagaatc agacaaaaat tcatcggggt gaaaaaggca ttacctgatt
                                                                    2760
cacaccettg tettgetage cetetteeat teatteeta cacagcaett tgetetgtta
aatcctctct ctgtctcaga ccattgcttg ccccttcaaa gggtatggtt caggctcctt
                                                                    2820
tcaagacatt tggagtttct ctctggggaa agagagcccc ctactggttt ggcttcagtc
                                                                    2880
                                                                    2940
taggtccacc atccctctcg atctggcatc ttggagatta atttaaaagg caagctcacc
acaatgtaag cctatggtct ggccaacctt gcttttggga actgtgacac caaagccccc
                                                                    3000
                                                                    3060
aggactatct gcctctccag gagccagata gaatgacatg cctttttcct aattgtccac
                                                                    3120
attccaccc caacccactg ccactgtggg ccaagccatc catcttgcaa tcttcatcta
                                                                    3180
aaacagctct catttcatgc cagttttgct caaacctgca ccgtcacaag atattcagaa
gatgaaaacg tagaagacac ccctgaatta aaaacactta catagcagtg gctggaatta
                                                                    3240
ctccaaaacg tgcccagtga tcgcactgta acatgggatt ttctcaccca aataggcaac
                                                                    3300
                                                                    3360
tcatgcttcc tgagtgtaat caaagcatgt ggtgttttgg ggccatatgc accaggtttc
                                                                    3420
tattttagaa accttcagct gtcttgctta tgtactgtat gtaaatttat tctttttaaa
aatcactttt atttgatttt gacttattaa atgctttaaa agcca
                                                                    3465
<210> 12882
<211> 10995
<212> DNA
<213> Homo sapiens
<400> 12882
gcgccattcc aaacatggcg gctccactag ggggtatgtt ttctgggcag ccacccggtc
                                                                      60
cccctcaggc cccgccgggc cttccgggcc aagcttcgct tcttcaggca gctccaggcg
                                                                     120
                                                                     180
ctcctagacc ttccagcagt actttggtgg acgagttgga gtcatctttc gaggtaatat
                                                                     240
aaqacatggg cgtctttgtc cctagccttc ccttttttct gaaacgtgaa ctgcgcgtac
                                                                     300
gcgtatctcc tccagggatc cgagcaacta attcacaaat ggggaaactg aggcttaaag
taagtcactt getttagget teecegtgge eegtatteaa tteaggtetg etggeggggg
                                                                     360
                                                                     420
cgcgtaaact cgacgtttgt ggaaacgtga acccgaagtt tgcctaaacc ccaaacttgg
                                                                     480
aaccetteca gatteceage eggteettag teteateece gageacegtt tettgeatee
ctgcatgttt agtaagaggc tcaagccttt tcggagctga gagtttcact gctgtatcct
                                                                     540
gtatcctttc cgctgggctt cacctttaaa cgatcctaaa gggactctta agagcggaaa
                                                                     600
```

ttgacttaag	ttaccaggcg	cagcttggta	ctaagagctg	aggaaggagg	aatgctggag	660
gttagggagg	gagggaggca	caggtgaccc	aatctctcag	ttttgcccaa	ggagtttacc	720
	aaaggtgaac					780
	cagtagtctt					840
	aaattggagt					900
	cctgtaatcc					960
						1020
	accagcctga					
	gtggtggcgt					1080
	acctgggatg					1140
	caagagctcg					1200
aaatcccaac	tttgtgactt	ttgtattgta	tctaatagca	cagtggtaaa	tgaatataat	1260
ttgcaagcga	ttattcagac	tgcatggaca	aaatgctttt	accacacgga	tgtacaaaga	1320
	aatgatttga					1380
	gcttactgca					1440
ctcccgagtt	gctgggatta	caggcacctg	ccaccatgct	attttttta	ttttttagta	1500
	ttcactatct					1560
cacctcaacc	tcccaaagtg	ctgggattac	aggcatgagc	cactacacct	agccagaaat	1620
aaatgattta	aaggacagac	catttaggag	daddaddadd	agacaccttt	asaataatac	1680
taacgacca	aggaaggggc	taataaactt	tagagagaga	tctaccatta	tacttaaaaa	1740
	tcagtcatgg					1800
						1860
	cagcaccctg					1920
taagatcaag	atgtttagtg	tggtctccca	ggctttgcat	gttgegttet	eteetteaga	
	tactgcagcc					1980
	ccgctcctca					2040
	acttaccatt					2100
ccccacccct	cacattgtgt	aacctgtagt	gctaatacag	tggtagtaga	tagcaagtgc	2160
tagatgaata	tttgtcagac	attgaaggaa	tctgtagtgt	ggagcctgta	gtgtagttgg	2220
cttgtgcaca	gaactccttg	cctgattcac	atatatgtct	gtaggtgccc	ttgagagaga	2280
	ggacttgatt					2340
aggaagettg	taataaacgg	caggcagttg	ccttgttgta	ggatcactgc	tctgatagaa	2400
	gtactgtggg					2460
adcaddaaad	ccaaagaagc	attttgactt	agccaggtga	agggagtgg	gagtagtaca	2520
agetggatag	tctctgctgc	tagataataa	coatctatct	agtettatet	cacgattcaa	2580
ttcaaaggccc	acattttctt	tagaactttt	cctatttcct	tccttatatt	ctatatagac	2640
	acagcctcca					2700
						2760
allgggglgc	cactccttga	ggtettetgte	cyclcactct	tagagagaaa	cacacgeeee	2820
	gaatttattg					2880
	atttcctcca					
	gccagccgtt					2940
	tttagccatg					3000
tcacgcctgt	aatcccagca	ctttgggagg	ccaaggtggc	tggatcactt	gaggtcacga	3060
gttcgagacc	atcctgggca	acatggtgaa	accccatctc	taactaaaaa	tacaaaaatt	3120
	ggtggcacac					3180
	cgggaggcag					3240
gggcaataga	gtgagactcc	atctcaaaaa	aaaaatatat	gttctctttc	taagctacca	3300
cacattttct	tcttaataca	gctgtccaac	tgtctataaa	ggcctgtgta	tcttttttt	3360
	ttctttttt					3420
	gcacgatgtt					3480
cttacctcaa	ccttccaagt	gactaggact	acaggtgcgc	accactacgc	ctgactaatt	3540
tttatttta	tagagacagg	gtttcaccac	attacccata	ctggtcttga	actcctggac	3600
tgaagtgatc	cacccatctt	ggcctccaaa	attattactt	acaggcgtca	accaccatat	3660
cgaagcgacc	atttttttct	taaataaata	gagggagta	aaattettga	gatgagattt	3720
	tgtctggtag					3780
	ggttggccta					3840
						3900
	tacccacatc					3960
gattctcgcc	ctgtcaccca	ygciggagig	caguggugca	geeteggete	accycaacci	4020
ctgcctccca	ggttcaagca	attctcctgc	ctcagcctcc	cyagtagctg	gyactacagg	
cacgtgccac	catgcccagc	taattttttg	tattttatt	agagatgggg	cttcaccgtg	4080
	tggtgacttc					4140
tgcctgcgtg	ggcctcccaa	aagtgttggg	attacaggcg	tgagccaccg	tgcccagcca	4200
ggagtcaatg	ttcaaagtaa	tcctgagaat	gggcaatctg	tttttctgat	ttactttctc	4260

4320 tgtaaatcaa gcgcgggagc tgcaggcagg cagaattttt gctcgttaaa gggccctcac atgtaggtaa tgttctaaat ttgagctcag atctgtctgc ctcacaccaa gtgtagtttg 4380 4440 ctgattgctg acagagetec actttectgt gtttgagget tettttetaa eteetttee 4500 aactgccatg ctgttctctt tctgtgcctc cccaatctcc ctgcccactt cctgcagtgg 4560 gcctgctttg gtacatttcc ttagagttgc ttgtgcacag agctccttgg ctgattcaca 4620 tttgcatctg tataggtgcc ctttagagat aactctctct gggacttgat tatccatgtg 4680 ataccaacct tgtcctctta ggccatccag tcagtaatat gtgttattaa acacttccct 4740 tqtqccaaqq caqtqttcca ggcactagga ggacagtggt gaataagaca gacaaaattc tcatctacta gtaggggaca gataataatg gatgaaaata atggatatga tgtcagttaa 4800 ttatqtqaaa aacaataaaa ctgtgcttgg gtgtggagca tgagcaggag gggcacagtt 4860 4920 tagaaagggt agaccggctg ctgtctctga gggggagaag attgtcctga gtcctgaatg 4980 gqtggtgatg tgagttgtgt aagcaccagc aagaggccac agtggggctg gaagagtgtc 5040 tgggcctggt gtggaataag atacagggaa ggggcatgta gtaggacaga gaccagatgt 5100 ggtgccggct cgtttgcctg gcgcttcctc catgggccta attaattggt aaactcagtt 5160 taccagatgt ttccattggc atggtgtctt gccatctcat atgcaaacac agatgctgcc acctcatcag atgacttcag gagaagttat ttcttcctct ggagtaagat ttttgatgta 5220 5280 taaatgatat ttttttcttt cctatgtttt gattacacag gcttgctttg catctctggt 5340 gagtcaggac tatgtcaatg gcaccgatca ggaagaaatt cgaaccggta agcattccct 5400 ctgtgtacac aatgttctgg gcttcagcag tatttcctag ttgctaattt tatacttcat gtgtttcagt cctgctttta tcctaagaca acatttcagg gactaaaatg tgtgcacata 5460 5520 atctctatga gctgctgatt tttggttcag tttattaatt gacatatcac ccataacgaa 5580 tcatttataa tgaacttttc gtattcgtac taggtaaaga agaagaccaa tagtgtgtac 5640 tgctttttaa aaaaatttta ttatttttgg aataggtctt acagagaaaa gtctcttgtg 5700 cttcttttta ttccccaagt tctgtcccta aaggtaacca gagcttctga tttcttcgta 5760 ccatatttta catgtttttt tttttttttg atggagtttc actcttgtcg cccaggctgg 5820 aqtqctcact gcaaccacca cctcatgggt tcaggcagtt ctcttgtctc agcctcccgc gtagatggaa ctacaggcat gcactaccat actcagctaa ttttatattt ttagtagaga 5880 cggggtttcg ccatgttggc caggctggtg tcgaactcct gatctctggt gatccatctg 5940 6000 tctcagcctc ccaaagtatc gggattacag gcgtgagcca ccgtgcccgg ccttatatgt 6060 gccattttaa ctgtaaatta tgatgctgat tgctggatct ctgcattgtc tcttttttt ttttttttt tttggagaca gagttcttgc tctctcaccc ttttaagaaa ggagtgcagt 6120 ggcatgatct ctgctcactg caacctctgc ctcctgggct gaagcagtcc tcccatttca 6180 gcccccagt agctgggacc acagtgtgag ccaccacatt tggctaattt ttgttttttt 6240 attttttgt ggagatggga tcttgctgta ttgcccaggc tggtcttgaa ctcctaggct 6300 caagcagtct tactgcctca gcctcccaaa gtgctgggat tacaggcgtg agccaccacg 6360 cttggcctct gccttgtgtt ttttttttt tttgagacgg agtctcactc tgtcaccagt 6420 ctggagtgca gtggcgcgat ctcggctcac tgcaacctct cactccctgg ttcaagcgat 6480 6540 ccttctgcct cagcctcttg agtagctgga ttacaggcat gttccaccac gcccagctaa tttttgtatt tttagtagag atggggtttc accatgttgg ccagggtggt ctcaatctcc 6600 taacctcatg attcgcccac ctcggcctcc cagagtgctg agattacagg cttgagccac 6660 6720 catgcccagc tgcattgtct ttttaaagaa gatctcatgg cttttatgct atattaatat ctctcttt tttttttaa cctgagaaaa gcataactta tctgctgttt aatgttggtt 6780 6840 aacacatgag aagttggggg ttatgattac tgctgtggcc aagattaaaa tccctgagtt gtctatgaga gggctttgtt tttacattct gattattcat ttatgaggga gataaatgag 6900 tctgttgttt ttcttatttt aataattttg ttcctttttt tttaaggtgt tgatcagtgt 6960 atccagaagt ttctggatat tgcaagacag acagaatgtt ttttcttaca aaaaagattg 7020 7080 cagttatctg tccagaaacc agagcaagtt atcaaagagg tatgaactca gttttctcct 7140 cagctctata ggaagaacta agtggtgcca ggattccttt tatgctttaa atgagatgta accepttcct gcgagtttca ttcaggcttt ataggtcagt gtgaaatgtg gctagtcatc 7200 catgtttggg acaacctgaa caagaagtaa agccaaggag tggggtccga aagcagagtg 7260 tcagacggaa cagctctgat gtgacttgtg tcatacattg gccttcagga aagatttttc 7320 ttaaaagatt ctgccatgtg aaaaaaggac aaaaagccac taacatatag gcttgttttg 7380 gacaaaaact gagatctgtg tccccacttg ccttacccag tgccttgcac acaggaatcc 7440 aaggaatcaa aaagtagtgt tcgacccagg ttcctggaaa ctcaggattt cgttgatctc 7500 agttgttcta agctagggca tttggaagtg tgttggggtt gccacgatga cttgggaagc 7560 tttaatggca ttgaatgggt tgggccagga cctgccccat gtgatgtgga agagtgaaga 7620 atcatcctgc ccaaaaagcc ggcaatgccc tcagtgagaa acactgaatt gagattattg 7680 gttgggggca atttttgaag taactagtcc caattaatca aaaagtctct tttcattcat 7740 gataccagct gttggggata gctattctta cagtttatca tgtcagatca tttcctgatg 7800 tgaatacttg aataacagtg caggtatgtc caagactgga tggttagtaa aggatgtaat 7860 7920 gctgttctta aaaagctctt gaaaatgtaa ttttaacagt tcataatctg aagtgataga

```
tcagtggtgt ggattttctt gtaaacagtt gttaacaaat gtttcagatt ttcagtgttt
                                                                     7980
taggttctca gcagtagcct ttggagagag gtactggatg gctggggacc aggatgggat
                                                                     8040
                                                                     8100
agagtetgta attagtetgt ttteaccetg etcataaaga catatetgag aetgggeagt
                                                                     8160
tcacaaaaga aaaaggtttg atggacttac agttccatgt ggctggggag gcctcacaat
                                                                     8220
catggcagaa ggtgaaagac acatctcaca tggtggcaga caagagaaga gagcttgtgc
                                                                     8280
aaqqaaactc ccatttttaa aaccatcaga tctcgtgaga tttattcact accaggagaa
cagcatggga aagacttgcc cccgtgattc aattacctct caccaggttc ctccctcgac
                                                                     8340
                                                                     8400
acatgqgaat tgtaggagtt acaattcaag atgagattgg gtggggacac agccaaacca
tatcaatctg atttctttt ggctgccctt ttgaattttg taacttgcat attactttct
                                                                     8460
ataagaaaaa taaacgtagg ccgggtgtgg tggctcacgc ctgtaatcct agcactttgg
                                                                     8520
                                                                     8580
gaggetgaag caggtggata acttgaggte aggagttega gattageeta gecaacatgg
caaaaccgca tctctactaa aaatataaaa attagctggg tgtggtggcg tgtgcctgtg
                                                                     8640
atcccagcta ctcaggaggt tgaggcagga gaatcacttg aacccgggag gtggaggctg
                                                                     8700
                                                                     8760
cactgagecg agacegeace aetgeactet ageetaagtg acageaagae ttegteteaa
aaaaaaaaaa aaaaagccca taaaaaactta tgttagaatc tgtcatctgg gttaatcaaa
                                                                     8820
tagtggagcc aagcagagta atgggcttaa tatggtttaa tggattctct ttgttttgaa
                                                                     8880
                                                                     8940
ttgttagcct cttaactaac cagaaccgta tgtgtttttc ctgcatttgc tctgacttag
tccatgactt tcatctgcag gatgtgtcag aactaaggaa tgaattacag cggaaagatg
                                                                     9000
                                                                     9060
cactagtcca gaagcacttg acaaagctga ggcattggca gcaggtgctg gaggacatca
                                                                     9120
acgtgcagca caaaaagccc gccgacatcc ctcagggctc cttggcctac ctggagcagg
                                                                     9180
catctgccaa catcctgca cctctgaagc caacgtgagc aaagggcaga ggcagttggc
ctatgagtgg gctgatgcgt gaggttggcc acacattcct tcctgtggac ttgacatttt
                                                                     9240
                                                                     9300
ggaagaactc tttgccagat aatgagttca ttttagtttt atgctcccat tgaaaaattt
                                                                     9360
tccactattt ttataagctg ttaatttctt gagtacttta taacatgtct gtagcttgga
                                                                     9420
taaaccaagt aagtattttt tttttgtctt tagcaaagtt tagactgtga atatgatgac
                                                                     9480
acagattett ttttatggtg getttgettg ttttaaattt ttgeatgaet ttteatettt
                                                                     9540
ttatgtgtgt ttcctgtagt ttgatccgaa ggaaaagagt atagtagcct gagaatcagg
                                                                     9600
agatgggagt tttagtcgta ggccttatga taattacccc gcggtggtgt gtagaaaagt
atgtaaattt gctctgtttt aagactttga actacctcaa gaagaggaat ctaatacaat
                                                                     9660
                                                                     9720
atttgtaatg tttccagagc tctcagaatg aggatttttt tgtaaatagg tcagaagacg
                                                                     9780
atggaactgt cctgggttag tatagtaatc ttacagtagg atccttaggt tgatgctgac
                                                                     9840
ttctgtttgg ggtatgttta tattttatgt ggtgtttact ttttttttt gacatagaag
gatatagtgg gagcagtgat acgctaacat tcattacatt ctgcagtaat gaatctgttt
                                                                     9900
aatgggtcag tcactgtttt cagtagcatg acagtggggt cataggtgag ctgtgagggg
                                                                     9960
ctaaatcttg ctctgattgt ctctttctgt tttgagtttt gtttgcgtgt atcatttttg
                                                                    10020
                                                                    10080
ttctacattt tgggagggga aacattttcc gttaaggaag gttgttgcca gtggatttga
                                                                    10140
ctccaaggga ctagagtgtc gtggtggggg tggggagggg ctgcagggtg atcattggct
                                                                    10200
actgagecte cacagagage atgtggtgee etgeetttgg gagggtattt tgetetegtt
agttttgtgg gcagcctcag attccctgtt gagttgctgt taagaaatgg agatttctgg
                                                                    10260
ctctcattgg gtaaggtttt ctgagtttta tatcttatta gatcacatcc ctttacccag
                                                                    10320
aacaaatgct tcactgtctt ctgattggca gtactcctgt ggctttgtgc cttgactcat
                                                                    10380
                                                                    10440
tttgttgtct tcagccttga aggccccttc ccacatggac tgacatccac tcatgtgcct
                                                                    10500
gatccctgaa gcctcccagc acccattcag ttgcatcccc agggcacagg actttgatct
cttctgttgc cctcgctagg ttctccctgg tgggttagtg ctttgtatct gtctctctgc
                                                                    10560
ccctcactaa ttctacaccc atgagaatta gacattattc tccttaaata tataaggacc
                                                                    10620
atataatctg tatctttttg gtgtgtgtat atggtatctg gcacatggat ctctgattac
                                                                    10680
cagcctgaca tcaacaaatc ccctcagtta caacgtatag gttaaacaaa gcttttaaaa
                                                                    10740
gctcatgtgg tatgacctca aggttgctaa cctggtcact catggtaatt agaaactctg
                                                                    10800
attggcagct ttgtatttct tgactaaaaa cctaaataaa ctgattaggt tttaggcgtt
                                                                    10860
ctttcaaaga ggttcttgag aagattgaga actatcctat ttggtgctta gtgaaaagat
                                                                    10920
                                                                    10980
tttgaattac tgtacgtacc agttgttgcc atttctttat taaattcaga agtttttttg
                                                                    10995
ccaaataaca atttt
```

```
<210> 12883
```

<211> 1986

<212> DNA

<213> Homo sapiens

<400> 12883

ctcaaaaaag aaaaaggaga tgttgaatgg gaagtcagca agggtgctag aatgtagcaa

```
120
gtattcttca ggtgttagtg atttctgttg ttcgggaaga ggagggttat ggaggaagag
                                                                      180
tatgggattt aggtgggtta agtgatttgc ccaaagtcaa gaggttagtc tttaaccttt
ggcagaagca ggatttgaag tgagttttca cacccctctt ccctggtcag tgtgttgata
                                                                      240
acagcccacc cacctgtggt tccagggtgt tcttaagaag ccaaggttgt cttgggtgtg
                                                                      300
gtagctcttt gaaaggtaga aagttccacc aagaaggcct tttttcttga atactgctta
                                                                      360
gcttccttgt caggctccaa gatgcagatt gcctgtgggc tatctctctc cacagataaa
                                                                      420
cctactcaca tcttcaggac agccttttt ttttgagaca ggagtcttgc tctgttgccc
                                                                      480
                                                                      540
aggctgtagt gcagtggcac aacggggtcc cacaggcaag tgctggggaa aggcccaccc
agccatcagg tagcctgtgt gttctacaaa cagcagctgg cagcactgtc tcctgccgga
                                                                      600
cattcctgcc acccgacatc aaagctggtg ggtgaccttt tcagccattt gacattcctc
                                                                      660
ccagaagaac ctctgcctcc cagaggttta agcagttctc ctgcctcagc ctcccaagta
                                                                      720
gctgggctat ttttttttt tttttttga gatggagtct tgctctgtcg cccggttaga
                                                                      780
gtgcagtggt gcaatctcgg ctcactgcaa cctctgcctc ccgggttcaa gtaattttcc
                                                                      840
                                                                      900
tacgtcagcc tcccgagtag ctgtcaggtg cacaccacta cacccagata attttgtatt
                                                                      960
tttagtagag atggggtttc accatgttgg tcaggatggt ctcaatctga cctcgtgatc
                                                                     1020
cgcctgcctc tgcctcccaa agggctggga ttacaggcat gagccaccgc gcccagcctt
                                                                     1080
aatttttgta tttttaatgg agatggggtt ttgccatgtt ggccaggctg gtcttgaact
                                                                     1140
cctgacctca agtgatctgt ccgcctcagc ctcccaaagt actgagatta caggcatgag
                                                                     1200
ccaccgtgcc cagcccatct tcatcttctt tacttgaact taattctttt tcatgcatct
tcccttcttt cctcttttct cctccaccca aatgtcttaa ctgttaacat tcccaggtgt
                                                                     1260
                                                                     1320
ttggtcctgg gcctctggag gttgtgaagg agcactgctc agtcctccct tcaagaaagc
                                                                     1380
agetteaagg agtteaatta caaaagetee tggeattggg gacetgeege catgtteetg
cccagggcat gctggtcctg gctgtcacca agcacagtgg aggtcaggtg ctaggccatt
                                                                     1440
                                                                     1500
tctgcccgac acaggcctcc tctaatgagc agtctgaggc caggcacagg aggctgaggc
                                                                     1560
aggagaatcg cttgaaccca ggaggtggac gttgcagtga gccgagatcg agccactgca
                                                                     1620
ctccagcctg ggtgacagag taagacttcg tctcaaaaaa taaaaaataa aaaaatactg
                                                                     1680
agcagtctgc ttgggcgctt ccatcagcct ggccatgaca tctttggagc tgtcctgccc
                                                                     1740
tettttgece eggtgtteet tggeecacet gteagaceta cateatagge tetteetgte
ttctgtttcc tctccccttt ctctaacata ggtgtttctc ctgagaaaga aaaaaaccac
                                                                     1800
ctgtccctga cattcagaag ctgacaacac tgttcggtca tgccattctc ctgttggaca
                                                                     1860
taaacagtct ctgaatgcca accccaaagt tgctctcagg ccatgataaa ataaaccact
                                                                     1920
                                                                     1980
taataatttt gtctaagcac gtacaaagaa aattcaaggt cagtttacca ctcacaaaat
                                                                     1986
accaaa
<210> 12884
<211> 593
<212> DNA
<213> Homo sapiens
<400> 12884
                                                                       60
ggctgaagta gggggattgt ttgagcccgg gaggtcgagc cctgatcatg acactgcact
                                                                      120
ccggccaggg cgacagaacg agaccctgag aaaaaagaaa agaaagaaaa aaaaagatta
                                                                      180
gcatagtgac tttctctttg atgtaaccat aaatatttaa agacatcagt gccgggcaca
ttgggaacct caacaaagtt gtttccgtta tccatctccg accagaattc aggaagaact
                                                                      240
ttgcctgtct tgttcccgct ataaccaatg actcaacaaa tgtttgtgga gtgagtgggt
                                                                      300
gaccctctcc ttttaccaac ggtaaacagc ccgcggaaag aaaaagtgac ttagccaaag
                                                                      360
tctctccagg catttggggc agagtcggga ctagcatagt agtatcctga ctctcgcagg
                                                                      420
agggctcgct ccactgtagt tattaattct cctctccaca caaccaggtc taatccggcc
                                                                      480
                                                                      540
aaagtettea attettaage taagaaaaaa ggaaaataca tgtaaactet gttttgegat
agacaagaaa acagaagaat taaaaatcct ccttccgggg tgcaccagaa tcc
                                                                      593
<210> 12885
<211> 13814
<212> DNA
<213> Homo sapiens
<400> 12885
geggeegete gageecetge etgageacag ceteteagat gageagtgte tecatggega
                                                                       60
gtgggagcgt gaagatgacc agctttgcgg agaggaagct ccagagactc aacagctgtg
                                                                      120
```

180 agaccaagte cagcaccage ageteccaga agaccaegee agatgegtet gagagetgee 240 caqccctct gacgacgtgg aggcagaaga gggagcagag tccgagccag catggcaagg 300 atcccgccag cctcctggca tctgagctgg tacagctgca catgcagctg gaggagaagc gcagggccat cgaggcccag aagaagaaga tggaggcgct gtcggcaagg cagcgcctga 360 420 agctcggcaa ggctgcattc ctgcatgtgg tgaagaaggg caaggccgag gctgcccac 480 ccctcaggcc ggagcacttt gcaaaggagt actctcagca caacggggag gactgtgggg 540 acgctgtttc caaaaccgaa gactttctcg tgaaggagga gcagagagag gagctccttc acgagccaca ggatgtggac aaagagagcc tggcctttgc tcagcaacat aaagcaaaag 600 accetgtgge tetgeacgag etggagagaa ataaggtgat eteegetgee eteetggagg 660 acactgttgg ggaggttgtc gacgtgaatg aatgtgacct ttccatcgag aagcttaacg 720 780 aaaccatcag tacgctgcag caggccatcc tgaaaatctc tcagcagcaa gagcagcttc 840 tgatgaagtc ccccacagtc ccagtgccag gctctaagaa taactcgcag gaccacaaag 900 tgaaggcacc agtccacttc gtggagccac tctctcccac gggcgtggct ggccaccgca 960 aagcccccg gctgggtcaa ggccggaatt cccgttccgg aaggccggcg gagctgaagg 1020 tcccaaaaga caggccacag ggctcctccc gaagtaaaac cccaacgccc agtgtagaga cgctcccgca cttgagaccc ttccctgcca gcagccaccc tcggacgccc acggaccctg 1080 1140 gcctggacag tgccctggag cccagtggtg acccacatgg gaagtgtctc ttcgacagtt 1200 acaggeteca tgatgaaage aateagegga caettaetet gteetettee aaagatgeea 1260 acattette ggageagatg ageeteaaag aagttetgga tgegagtgtg aaggaggtgg 1320 ggtccagctc ctcagatgtc tcgggaaaag agagcgtccc cgtggaggag cctctgagga 1380 qcagggccag cctcattgaa gtggacctct ccgacctgaa ggcccccgac gaggatgggg 1440 agctggtaag cctcgatggc tcggcggacc ttgtcagcga aggcgaccag aagccggggg 1500 tcqqcttctt cttcaaggta agggattggt agcatctgtt tcaggcactc gtgatgtgtt gccaccccac gtgatagtga gttagagaac acagatctgc accaggctgg ccagccgctc 1560 1620 ctgtaagagg ccaggggatg tgtgtgttta gctttgtggg ccacagagtc tctgtcccga 1680 ggactccact tggccagaag cagtcccggg caatacgcat gcaagtgagc gtggtgtggc 1740 tgagacgact ttgttatgag ccctgaaact ggaatttcat gtgattttca acatagtttt ttttttttg ctggttttcc agtcaaaacc ctgtcatctc cctgtcctgc cccaaagcgt 1800 aaaaagcgtt cgtcgttaga atgctctgga ggtggccagg cctggcctgt gggctgaagt 1860 ttgccaacct ctgatatagc aacttcaaaa aacatttttt gtatgttttt cttgtaattt 1920 tttccttaga tatgaaggga agcgtaaact gaactgtttt aatagtcagt gcgtcacatg 1980 2040 atgtttgctg tgacgttcgt tgtctcctaa gatgataaga ccatatatcg tcgtctccta 2100 agatgataag accatgtttt cgtggtagtt tttcaatgtt tagatagatt ttgatacaca 2160 gttacttaca gtattgggta cagtaatgtg ctgtgcaggt ctgtagtcta ggagcagtgg ctgatgtagc cgaggcctgt ggggggcgct gccatccagg tgtgcgcaca ctccgtcatg 2220 ctcacacagc agcagagtca cctgaggacc tatttctcag aacgttttct ctcggcaagc 2280 2340 gacacgcaac tgtttctgct ttgcctccag gcagttatga atttgagagg ataccaaatc atcaggtgga tcttagcaaa agaggcaagc tttatttggt ggttgcactt ttgaaatgta 2400 aacaaattcg tgaccaactt cagtattcac tttttcgctt ttttttttt ggacagagtc 2460 tggctctgtc gcccaggctg gagtaaaagg gcatgatctt ggctcactgc aacctctgcc 2520 2580 tcccgagttc aagcgattct tctgcctcag gctcctgagt agctgggatt acaggcgtgt 2640 gccaccatgc ccggctaatt ttttttttt tttttttt tttttttt tttaagtgga gacagggttt cgccatgtcg gccaggctgg tcttgaactc ctgacctcag gtgatccact ctccttggcc 2700 tcccaaagtg ctaggattac aggcgtgagc caccacatct agccaatttt tgtattttta 2760 2820 atagagacag ggtttcgcca tgttgggcag gctggtcttg aactcctgac ctcaagtgat tcacccacct cagcctccca aagtgctggg attacaggaa tgagccattc tgcccagcct 2880 cgctcttatt ttggaaatat acgtgtactt tttaaggcaa actggatctc gtgagatgtt 2940 tgggaaattg ggtgatgccg agcgcctttg aaatgccctg gtttgtcttc attcgtattt 3000 cagagtctgt aacggttaga gaaaagcata gaagtcttta tgcgttaaac ttttaaaaagc 3060 3120 gtagtggaag teggetgetg ggtegagtge ggeegtgtee ggegtetgag ggggtteetg tcatgctctg tgtggcctct gtcttgcagg atgaacagaa agcggaagat gagctcgcca 3180 agaagcgggc ggccttcctc ctgaagcagc agcgcaaggc cgaggaggcc cgcgtgcgca 3240 agcagcagct ggaagcggag gtggagctca agcgtgacga agcccggtaa gcgtcccgcc 3300 3360 gggggggaaa gcagactgag caggagcctg gtgggtccct ggcggccccg gtcccgttgc tggcactgag catggaccat ggcaatgagt gcctgtgacg gtcttactcc tcccatggac 3420 cacctccccg aactttcacg gcccctgctg atcttcagtg aggacgtgcg ttgccggtgg 3480 ccagggaggc tgtgtggcct cggtgggtca tctgcaggac tgcctttgca gcctctgtgt 3540 cccgcttgtg gaggctggcc actcttggtc ccagcggccg gggagaaccc gagaaacgcg 3600 3660 cctggacaga gcgccgcggc gcaggcgtcg tggaagaagc cccgtgaccg agcagtgtct gggcgtgtgt ttctctcagg cgcaaagctg aggaagaccg ggtgcggaag gaggaggaga 3720 aggcgcggcg cgagctcatc aagcaggagt acctgcggag gaagcagcag cagatcctag 3780

```
3840
aggagcaggg gctcggcaag cccaagtcaa agccgaagaa gccgcggccg aagtcggtgc
                                                                     3900
accgggaaga gtcgtgcagc gactccggca ccaagtgctc ctccacccgt aagcagcccc
ggccctcacg cgggcagcgc ttccttccgc gggcggcggc ctcacgttct tcagctcatt
                                                                     3960
tcaattttgt catcaagagt ggtgtgaggc gggaagggtg gagatgatta tccccgtttc
                                                                     4020
atggatgaca atgttgagac cagatgctct gagatgtgcg gcacatccag gcgcagcccg
                                                                     4080
                                                                     4140
gctccccggg atggggtggg gacgcggcct gtgtggccga gctctgcagg gcgaggtgag
gggaacaggt acaggggaca ggtacttgtc tgtcggaatc cgttcatgaa ccgtcgtctg
                                                                     4200
                                                                     4260
tttctgtctc tggcagctga taacttgagc cggactcagt caggctccag cctgtccttg
                                                                     4320
gcctctgcgg cgacgacaga acccgagagc gttcattccg ggggcacacc ctctcagcgg
taaggggcct gagacggccg ccggcacggg gctggaggac gttcggaggg gcagggtggg
                                                                     4380
acttcctgat taaacacggt gagagaggct tttgtaactt taattttgat ataatttcac
                                                                     4440
                                                                     4500
atttacagaa tagttgcaat catgtcatca ggaataccag tgcccttcac acgggctccc
                                                                     4560
cagctggtta aacgtggcag ccttcacctt atcaccctcc cctgtccccc accccacacg
                                                                     4620
tgcacacctg cttcttcatc gttttgagtc cgttggagtc caagcgtggt ggctcacacc
                                                                     4680
catgattcca ggactttggg aggctgaggc aggaggatca cttgggcctt ggagttccag
accagcctgg gcaacagagt gagacccccc catctctaca aaaaaatacaa aaaaaagtta
                                                                     4740
                                                                     4800
gctgggtgtg ggggcatgca cctatagtcc cagctacttg ggaggctgag gtggtagtat
cgcttgagcc caggaagttg aggctgcagt gagctgtgct caggctactg cactccagcc
                                                                     4860
tgggcaacag agtgagacgc tgccagaaaa cccccaaaag caaaaataaa cagaaaaaaa
                                                                     4920
ccactccgtt ggagatgtct ggccttttat gcttaaatac ttaagtgtgt atttcctaga
                                                                     4980
acgagaatgt tttctcgtgt taccagttac caaggcagca ctttcatccg atttgcggtc
                                                                     5040
cccattcagc tgtcctcagt tatcccaaga gtgtccctga caactgtgtt gtttccgagt
                                                                     5100
ccaggatctg gtttggggcg atgaatggcc ttgaaatgcc atgtccctgt agtctccttc
                                                                     5160
gatccagagc agttccttag cctttctgtg tttttctgga ccttgacttt tggtaaccac
                                                                     5220
aggtcagtta tccttctggc tgcctctcag tatcggcttc ctgtgatgag actgaggcct
                                                                     5280
                                                                     5340
cgcgctgctg attgagcagc ccagaagtga gtgtgcgtct ttctcaacgc agcctctcag
                                                                     5400
gtgggccccg ggaccgctcc tgtgatgaga aagtaacttc aggagagagg ctggggactg
                                                                     5460
gtctggacct cacggaactg tcccgcaggg gctttagtga ccaccatgga gctcctgctc
accgcttcct ccacgcgtgt tgtcagctct cgtgggagca agggcttccc ttgcccatgt
                                                                     5520
gtccctttat ttttatatgc acagcgtgtg gctcctgctc tgtgtgcacc tgtgggccgt
                                                                     5580
gttttcttgt ctcttcaccc gtctcatggc tccttgttgt ctctgggctt tgtggcagat
                                                                     5640
                                                                     5700
ccctccgagg gactgcagat tctgtttggg tttttgttct ggtggtcagt taccctggct
ggattcagac tccagctctg tctgcctccc ttgtgagagc agcagccgac atctctgagc
                                                                     5760
                                                                     5820
agctgtgtcc agcctttcgg catctgttgt gctcagtgga gacttccctg cagggtggag
ctcaggcctt ccagggatca gcgtcactgg gacccaagtt ttcagactcg gcctgctgtg
                                                                     5880
gcccctcctt ccctaggtct catccctggc tgggcagcag cacaggtggc ccaaacttca
                                                                     5940
                                                                     6000
tectetgget teetgageea geageactgt geeetgtget gtgeetgtge eetgeteaeg
ggggcagtgc ctggagcaag ggcttcgtgg aggtgaaccc cttcggtgaa gggctgactc
                                                                     6060
ccctctgtct gtcttcatca ctccctagtg cctgaagtgt ttgcttttgt attttgctcg
                                                                     6120
gagtgtctgt actgtgtggg agttgtggca actcgagccc ccaccgtcac cgaaagcctc
                                                                     6180
ctccctgct gatgtgcttc ctgtcctggt tgcgggccag ccccttgcca gcagtggtga
                                                                     6240
gaggaagcca gcgcttcacc tgcctgtctc ttgtctgttt ctgcctgcag agtggaatcg
                                                                     6300
atggaagccc tgcccatact gagccgtaac ccaagcagga gcacagaccg agactgggag
                                                                     6360
accgcgtcgg cggcatcttc cctggcctca gtggccgagt acacaggtga cggcgttcgc
                                                                     6420
cctccttaga ggtcatcgtg ggcatggcca tacgcctttg cgtggctctt tcaatatctg
                                                                     6480
ttctctattt tggtctaaaa agtatttttc taacaaagat gtttgatgta gtgaaagaga
                                                                     6540
gctaatttga gctctttggt gctgaaatgg gcatgtggtt tagtagaagc tcttaggcct
                                                                     6600
gccttgccct cctggtcatc tgccctgctg tctgctgtgc agggggcagc ggacctgggg
                                                                     6660
                                                                     6720
gcagcagagc ccgggagtgg tggaagtgct tggctctcac cagctgccct tggagcaggc
gtgggctcag ggcacagtga actggaggtg ctgctgtggc tgaggtgtat gtcccggggc
                                                                     6780
ctttgaactt tagacttttt acaagttatt tacctggttt tgtcttttt ttatagttaa
                                                                     6840
gacactgaat ttagaaaggg gataaattat tgattacttt gtctttagtt gtctaaaaaat
                                                                      6900
ttataactta aaattctttt gaataaattt aagtggtttt tacttcccat ttttaaataa
                                                                      6960
tcataaatat ctgtaattca gcctacccat tgcttgcttc taagacattg ctggttttct
                                                                     7020
tttttgtgtg tgttcgtgcc ttaaaataat aattttacca accctggcct cgtttcttag
                                                                      7080
                                                                      7140
gtcccaagct ctttaaggag cccagtagta aatcaaacaa gccgattatt cacaatgcca
tatcccattg ctgcctggct ggaaaagtga acgaacccca caagaattcc atattggagg
                                                                      7200
                                                                      7260
caagtatcat gtttcaacct cagtttttat gtggaataaa aagtgtttat aaattaaggg
                                                                      7320
ttctttttaa aagaaaacac ccctaatctt tgatgcatga gagttactag ggagaatgca
                                                                      7380
gatttcaagg aagaggccgt tccaggcagg tgggagtgag gagtgccaag gtccaggggc
tgcagtgagc ctgtgctgga ggaacaccca ggaggacggg gcagggttca gaggctacat
                                                                      7440
```

7500 cctcatgtgg tgcctctggg ctgaggaaag acatagttct actcagtgag atagtggatg 7560 caggtgtggg cagaggagag ccaggaaccc acctgccctt cccagtagat cagagcagtc agcagggaag ccagggaggc agcctggagg tgaatgagga acaggggcca gggctggagc 7620 7680 ggtgggttgg ggaggaccga ggacggagga cggagtggtg ggttggggaa gatggagtgg ggagggaggg aagaggcgcg cacccgctga gcgtgtggac tccggagcac ccagtgtgca 7740 7800 tgcccaggga ggggcttgga agcaggaatc tgagggtcct gcacggggtc taggctggcc cctgaggggc aggactggga ttccagggga gaggaggcag agccactgga ccctgcccca 7860 7920 gattgaggct ggtgtgtggc cttaagttgc tggccttggg atacaacggc ttgtgaatga 7980 gtgaatgaaa attatgcaac aatctgtcat ccaccagaaa ttctgctttt taataattaa 8040 gactaacccc tggtccttag ttggtttagt tgtaaaaaatt aaagtgacat acggaatttc tgacccactt taaaacggat gtgttctttt cttgatagtg aagatcatct agactaagaa 8100 tggccccgac ctaggcaggt ctcgtggcac tggggacaga agaggccatg gtcatgccct 8160 8220 tectgettag atttecacae ggagaggtgg ttggeeeet gtateagtgg eeeceaggat caccetgcat geggagatge actggaagga etegtggece teagtgtgga gtegaceeag 8280 8340 ggcttagatt tattccagca ctgtggaggg agccacagcc actgggtgaa gagggagaag acagaggcgg ggctaggcct tgtgcagctc cctctgctct cgttcttcca gcagtggatc 8400 8460 cacagcagcc tgtgggccat ggaaagccct tttgagactg gatgccctga gctctccttg 8520 ggggctggtc acaaggcaca ctccctgccc agtgtgcagc agtgtgcctg acgcctggga 8580 ggaaaccagc gtcagcgtgc agaccagcag ttcaggctca ggaggccctc ctgtcttgcc agtgagtgac tgggagcgag ctctgcagat agcaagttcc caggtgccca ccaagggccg 8640 cccagcaggc aggcctttct aggacagcag ccctctcagc tgtgccacat aagctgtggg 8700 caccacacgc ttccttatcg tgcaggcagc aataagtaaa taagatgaac cccactcccc 8760 acagtcccgc tgtcgctaca aattaaatgt ttctttcttt ttggcatcta attctgttca 8820 8880 tatttaaaca cagtgagtag ggttgaaatc agtattatat agacagtttt ggattctttt aaaaaatacg tattatttaa aataataaac cccattatat gctgatacat tgcatattta 8940 9000 tgaaaagtaa cttttctaaa gccaaataaa tagaagagtg gcattgacat aagagggctg gcatctcagc cgctcgggcc ctccgtccat tacaaccaca cagcccaggg ccttgggaag 9060 9120 gttctgccgc acacttggga gaggcgatga ggccttagcc tttcgaggtc gagggcttga 9180 ccctgagatt cctgggaagg cctcaggatg cctgggccgc atgtggagaa ctgtgagggc 9240 agacccaggt gcactcccat tcccaggcgt gtggagggtt tgtttttaaa agttaccaaa acacttgaag atacgtttta aactttaaaa tacaatcaac aaacgcggcg acaggcatca 9300 gcagtttgtc atacttcaga ttcttctttt ttttttttt gagatggagt ctcactctgt 9360 cgcccagact ggagtacagt ggtgcaatct cagctcactg caacctccac ccctccagac 9420 tcaagcgatt ctctgagtag ctcggactac aggcatgtgc caccacgcct ggctaatttt 9480 tgtatcctta gtagagatgg ggtttcacca tattggccag gctggtcttg aactcctgac 9540 ctcaagtgat tcgcccacct cagcttccca aagtgttggg attacaggcg tgagccacag 9600 cgcccggccc aaacagcttt atgagatatc attcacatac cgtaaaattc acccttttaa 9660 9720 gttataccat tcagtggttt ttagtacatt aatagagtag cacaaccatc accaccgcct 9780 aatttcagag cattttcatc ctcataaaaa gaaactccac gcccgtgaac agtcaccccc ctaagtcttc ccgcgcccaa gctcttggcg gtcgccagtc tgtctccatg gatttgcctg 9840 9900 ttctgggcat ttacataact ggcatcataa ttatatggcc ttttgggtca ggcttctttc 9960 acttagcgtg atgctctgag gtttctcagt gtagtgtgta ccggacctcc attccttttt gtagctgggt aatgctccat tgcatgctcc gaccccatgc tgttcatctc gtcatctgct 10020 gatgcacact tgggttgatt cttcttcaaa cattttttat tgatagggaa cagatgtgca 10080 tgcttttggg ggtacatgtg atattttcgt ttctactttt tgcctgtgaa gggatagtgc 10140 tgttatttat atgcagtgtt ttgtatggat gcgtgttttc atttcccttg agtacatatg 10200 tgagagagga attgctgggt cccacggtaa ctgcctgatg gtttggagaa gagccaagtt 10260 gtttttcaca gcagctgctg tgctctgtat ccttctggca gtgaaagagc cccatggctc 10320 gccagcactc gttaccgccc tgcttctggg ttccagccgt ccttgtgggc atgacgcgac 10380 gtctctttct gactggcatt tctctggtgg ctgatgatga gcatcttttc atatgctttt 10440 ccatttaatc gtaaaagcat tcttttcccc cttgcttgct tagacttctt aagtaaagtc 10500 tcaatggcat ataatgctcc cgtacagggg tctgctgtaa ttgtttacaa caggcaggcc 10560 gtagctgacg ggtgggagag cttcccacgg agcggtgctg gttgagccgc tgtgggagcc 10620 caactcgtgg caattggagt ggccctgaag tgtttgtctc ttcccctttt ctctctctgc 10680 acaggagctg gagaagtgtg atgccaatca ctacatcata ctgtttcgtg atgctggctg 10740 10800 ccagttcagg gcgctttact gctactatcc tgatactgag gaaatctaca aactcactgg 10860 cacggggcca aagaacatca ccaagaaaat gatcgacaaa ctgtataaat acagctcaga 10920 ccgaaaacag tttaacttga tcccagccaa aaccatgtct gtcagtgtgg acgcactcac 10980 aatccacaac cacctgtggc agcccaagcg gcctgcagtg ccaaagaagg cccagactcg taaatgaccc cggtgcagct ggcgtccaaa gggtgaccca gactcgtaaa tgatgccctt 11040 gtggctggca tccagagggt gccacggggt ccttatttat tgttttcatc tatttgggta 11100

```
cgaagtgtgc aaagtcacag accttttgca aagaggtttc tagacagcag aagaaaaccc
ctctctcagc gctcatctca cgcagaggat gccaggcagg gtgaggatgg gggagtagat
gccgcttttg cagtggctcg cactgctgtg gccactgctg accactgagg ctcccagcgg
agggtgttca cagccaggtc ccgggccacg gagctccctt acttgaagtt ctccttcagc
atagattaga cgtgatccac tttgctttct tgcttctcac ctcgccccct tgcacattgc
ctgacaccct catattggcc agctgtaatc tcgtgactat gggactgagg ctcaatcttg
                                                                   11520
gcttggggtg tttgaatgtc tatagcaaag gaattcataa tgggaaatct ttttcatttg
                                                                   11580
agaaattqta tqatatttat tggttgtgtc tactgccaac atttatatcc aattctaaga
                                                                   11640
tttctgaaaa aaaattctta tcccttgctg ctcagaaaaa gtttacggaa aacaccagtt
cactaaaagc accgaaatct gcaaagcctg tcttccgcta gaacaacgtc tacaaatgtg
                                                                   11700
                                                                   11760
aagatgatga cttctggcac gcggtcatga gggtggggaa tggcactagg agctgatgtt
                                                                   11820
tgcctcattt aaagtaggca agccgagcca actgcagcca tcattcatta agttttgggt
agtgctctaa tggtttgttc actttaataa agacagattt tggtaaagta gaatattttt
                                                                   11880
cattctgagc atgtttgtcc caaaaggtga tgcacttaag ctgacagtcc cttcagtggt
                                                                   11940
tttgttaggt cacggcttgt cctgtctgga ttctgcatct ggaagcgctg catgctctca
gaggagcgtg ccgtttcccc tgtagatgga tacttttgtt ttgttgccta tttaaaaaca
attaagtggt tatttgcagt tatttcagaa ctccaagtaa gtggatggct ttgggttctt
tctgccttgg tcccaatggt gttgatgctt ctgtggagcg cggacattcc caggagcagg
tgcgtgccag ccatggctgc cagacactgc tgcaactgac cagctgccgg aagattctgg
agccactaac attagttttg cacatatttt cttgggagtg ttacttgaat ctatctcaaa
ctgcagaaaa aatcaaaaga tcaataattg ggagaaaaag agacaaattt aactgttaca
                                                                   12360
taattttaga tagacaaaaa acatgagtga gtcgtgtaca taaggaggga acatggtaca
                                                                   12420
                                                                   12480
gaaggctaga aggaattata ggtcttattc ccctttcctc agtcctttga agagaagtac
agtctcttgc gattttgtat atatcgtgtt cgacacagcc gctctctgtc ctgtaaatag
                                                                   12540
                                                                   12600
ggaactaaag gctgtatgat ttctcaagtg ctgagttaca cagtcctgag tgagctttct
                                                                   12660
qttaccatac tttcacacgt gggctttatt tctcactgta tgtttgatat gatattactg
                                                                   12720
tatttatttt aagaaagcac taagatgtaa taaagtgatg aactaatttg ctttacattg
                                                                   12780
aatcgtatgt gtgaggttgc tgtggctcat ttcgctgacc aggcgacacc aactccttgc
                                                                   12840
tttataggag tttcacattg ttctttacca tggccctatc gaagtcagtg gaattggatt
                                                                   12900
ctttttaatg aagagctaga aaatatctgg catagagctg gaaaattgca ttcccatggg
                                                                   12960
acgtctgaat caattctgga ttttctccat ggaatgagtc agtgtgtgga acatcctgaa
                                                                   13020
acttgtcctt aagcgtgtag ttttcactgt tcgttgcgag taagcactaa tgtggcatgg
acattectga tgteccaagt ecceaggeea gtgttegeet aatgattgae agaagegtee
                                                                   13080
ctgcgttctt catgcttgga cacagcaacc cttttaatta gtcttgaaaa gtttcagaca
                                                                   13140
caggattaat tttcgtggtg gtgcttttgg gcctttctgg cttgggtggt ggtaaagtca
                                                                   13200
tgattttgca gttgataaca ctgacttata actctgttta tcaatgtctc ctatattcaa
                                                                   13260
agcccctgca gtggtatttg tgtctcgttg caaatttctt tcagcggaaa gcttgcacaa
                                                                   13320
ctttcgttgt gtctcagaat tctaaccttg ttatttaaga caagctgctc tacccattta
                                                                   13380
ggatataact ttgtaaagaa agtgtaaacc aaatgattca atgtatgatg aagtttatgt
                                                                   13440
gtaaatcctt ggtaatgcta gaattctggg agcccagaag ggttgaaaga gaaatgaaac
                                                                   13500
ttgcgtgagt cccattattt tacgcatgta tgtgcagata cgttctaccc acacgtgtgc
                                                                   13560
gtgcacatgg ctgtgtgcgt gcaccaaaga tggactgctt tccatgtgtc cttttgactt
                                                                   13620
tctgcacgtg tcactgcggt gcagtctctt agcagacttc aggcccaaac tgtattcttc
                                                                   13680
actcaggcaa aattgaaaag tggaataatt ctaaattact tctaggttat acttttacct
                                                                   13740
ccctgaaatt gtagttgtca cttggagggc aaaatattta ttgaaataaa attttctgtt
                                                                   13800
                                                                    13814
aaaaattcat cact
<210> 12886
<211> 7525
<212> DNA
<213> Homo sapiens
<400> 12886
                                                                       60
gagtggaatc gatggaagcc ctgcccatac tgagccgtaa cccaagcagg agcacagacc
gagactggga gaccgcgtcg gcggcatctt ccctggcctc agtggccgag tacacaggtg
                                                                      120
acggcgttcg ccctccttag aggtcatcgt gggcatggcc atacgccttt gcgtggctct
                                                                      180
                                                                      240
ttcaatatct gttctctatt ttggtctaaa aagtattttt ctaacaaaga tgtttgatgt
                                                                      300
agtgaaagag agctaatttg agctctttgg tgctgaaatg ggcatgtggt ttagtagaag
                                                                      360
ctcttaggcc tgccttgccc tcctggtcat ctgccctgct gtctgctgtg cagggggcag
cggacctggg ggcagcagag cccgggagtg gtggaagtgc ttggctctca ccagctgccc
                                                                      420
```

ttggagcagg	cgtgggctca	gggcacagtg	aactggaggt	gctgctgtgg	ctgaggtgta	480
		ttagactttt				540
tttatagtta	agacactgaa	tttagaaagg	ggataaatta	ttgattactt	tgtctttagt	600
tgtctaaaaa	tttataactt	aaaattcttt	tgaataaatt	taagtggttt	ttacttccca	660
tttttaaata	atcataaata	tctgtaattc	agcctaccca	ttgcttgctt	ctaagacatt	720
		gtgttcgtgc				780
tcgtttctta	ggtcccaagc	tctttaagga	gcccagtagt	aaatcaaaca	agccgattat	840
tcacaatgcc	atatcccatt	gctgcctggc	tggaaaagtg	aacgaacccc	acaagaattc	900
catattggag	gcaagtatca	tgtttcaacc	tcagttttta	tgtggaataa	aaagtgttta	960
taaattaagg	gttcttttta	aaagaaaaca	cccctaatct	ttgatgcatg	agagttacta	1020
gggagaatgc	agatttcaag	gaagaggccg	ttccaggcag	gtgggagtga	ggagtgccaa	1080
ggtccagggg	ctgcagtgag	cctgtgctgg	aggaacaccc	aggaggacgg	ggcagggttc	1140
agaggctaca	tcctcatgtg	gtgcctctgg	gctgaggaaa	gacatagttc	tactcagtga	1200
gatagtggat	gcaggtgtgg	gcagaggaga	gccaggaacc	cacctgccct	tcccagtaga	1260
tcagagcagt	cagcagggaa	gccagggagg	cagcctggag	gtgaatgagg	aacaggggcc	1320
		gggaggaccg				1380
		gaagaggcgc				1440
cccagtgtgc	atgcccaggg	aggggcttgg	aagcaggaat	ctgagggtcc	tgcacggggt	1500
ctaggctggc	ccctgagggg	caggactggg	attccagggg	agaggaggca	gagccactgg	1560
accetgeece	agattgaggc	tggtgtgtgg	ccttaagttg	ctggccttgg	gatacaacgg	1620
cttgtgaatg	agtgaatgaa	aattatgcaa	caatctgtca	tccaccagaa	attctgcttt	1680
ttaataatta	agactaaccc	ctggtcctta	gttggtttag	ttgtaaaaat	taaagtgaca	1740
		ttaaaacgga				1800
tagactaaga	atggccccga	cctaggcagg	tctcgtggca	ctggggacag	aagaggccat	1860
		gatttccaca				1920
acccccaaaa	tcaccctqca	tgcggagatg	cactggaagg	actcgtggcc	ctcagtgtgg	1980
agtcgaccca	gggcttagat	ttattccagc	actgtggagg	gagccacagc	cactgggtga	2040
agaggagaa	gacagaggcg	gggctaggcc	ttgtgcagct	ccctctgctc	tcgttcttcc	2100
agcagtggat	ccacagcagc	ctgtgggcca	tggaaagccc	ttttgagact	ggatgccctg	2160
agctctcctt	agaaactaat	cacaaggcac	actccctgcc	cagtgtgcag	cagtgtgcct	2220
gacgcctggg	aggaaaccag	cgtcagcgtg	cagaccagca	gttcaggctc	aggaggccct	2280
cctatcttac	cagtgagtga	ctgggagcga	gctctgcaga	tagcaagttc	ccaggtgccc	2340
accaagggcc	acccaacaaa	caggcctttc	taggacagca	gccctctcag	ctgtgccaca	2400
taagctgtgg	gcaccacacg	cttccttatc	gtgcaggcag	caataagtaa	ataagatgaa	2460
cccactccc	cacagteceg	ctgtcgctac	aaattaaatg	tttctttctt	tttggcatct	2520
aattctgttc	atatttaaac	acagtgagta	gggttgaaat	cagtattata	tagacagttt	2580
tggattcttt	taaaaaatac	gtattattta	aaataataaa	ccccattata	tgctgataca	2640
		acttttctaa				2700
taaqaqqqct	ggcatctcag	ccgctcgggc	cctccgtcca	ttacaaccac	acagcccagg	2760
gccttgggaa	ggttctgccg	cacacttggg	agaggcgatg	aggccttagc	ctttcgaggt	2820
cgagggcttg	accctgagat	tcctgggaag	gcctcaggat	gcctgggccg	catgtggaga	2880
actgtgaggg	cagacccagg	tgcactccca	ttcccaggcg	tgtggagggt	ttgtttttaa	2940
aagttaccaa	aacacttgaa	gatacgtttt	aaactttaaa	atacaatcaa	caaacgcggc	3000
gacaggcatc	agcagtttgt	catacttcag	attcttcttt	ttttttttt	tgagatggag	3060
tctcactctg	tcgcccagac	tggagtacag	tggtgcaatc	tcagctcact	gcaacctcca	3120
cccctccaga	ctcaagcgat	tctctgagta	gctcggacta	caggcatgtg	ccaccacgcc	3180
tggctaattt	ttgtatcctt	agtagagatg	gggtttcacc	atattggcca	ggctggtctt	3240
gaactcctga	cctcaagtga	ttcgcccacc	tcagcttccc	aaagtgttgg	gattacaggc	3300
gtgagccaca	gcgcccggcc	caaacagctt	tatgagatat	cattcacata	ccgtaaaatt	3360
caccctttta	agttatacca	ttcagtggtt	tttagtacat	taatagagta	gcacaaccat	3420
caccaccgcc	taatttcaga	gcattttcat	cctcataaaa	agaaactcca	cgcccgtgaa	3480
cagtcacccc	cctaagtctt	cccgcgccca	agctcttggc	ggtcgccagt	ctgtctccat	3540
ggatttgcct	gttctgggca	tttacataac	tggcatcata	attatatggc	cttttgggtc	3600
aggcttcttt	cacttagcgt	gatgctctga	ggtttctcag	tgtagtgtgt	accggacctc	3660
cattcctttt	tgtagctggg	taatgctcca	ttgcatgctc	cgaccccatg	ctgttcatct	3720
cgtcatctgc	tgatgcacac	ttgggttgat	tcttcttcaa	acattttta	ttgataggga	3780
acagatgtgc	atgcttttgg	gggtacatgt	gatattttcg	tttctacttt	ttgcctgtga	3840
agggatagtg	ctgttattta	tatgcagtgt	tttgtatgga	tgcgtgtttt	catttccctt	3900
gagtacatat	gtgagagagg	aattgctggg	tcccacggta	actgcctgat	ggtttggaga	3960
agagccaagt	tgtttttcac	agcagctgct	gtgctctgta	tccttctggc	agtgaaagag	4020
ccccatggct	cgccagcact	cgttaccgcc	ctgcttctgg	gttccagccg	tccttgtggg	4080

4140 catgacgcga cgtctctttc tgactggcat ttctctggtg gctgatgatg agcatctttt 4200 catatgcttt tccatttaat cgtaaaagca ttcttttccc ccttgcttgc ttagacttct taagtaaagt ctcaatggca tataatgctc ccgtacaggg gtctgctgta attgtttaca 4260 acaggcaggc cgtagctgac gggtgggaga gcttcccacg gagcggtgct ggttgagccg 4320 4380 ctgtgggagc ccaactcgtg gcaattggag tggccctgaa gtgtttgtct cttccccttt 4440 tctctctctg cacaggagct ggagaagtgt gatgccaatc actacatcat actgtttcgt gatgctggct gccagttcag ggcgctttac tgctactatc ctgatactga ggaaatctac 4500 aaactcactg gcacggggcc aaagaacatc accaagaaaa tgatcgacaa actgtataaa 4560 tacagctcag accgaaaaca gtttaacttg atcccagcca aaaccatgtc tgtcagtgtg 4620 4680 gacgcactca caatccacaa ccacctgtgg cagcccaagc ggcctgcagt gccaaagaag gcccagactc gtaaatgacc ccggtgcagc tggcgtccaa agggtgaccc agactcgtaa 4740 4800 atgatgccct tgtggctggc atccagaggg tgccacgggg tccttattta ttgttttcat 4860 ctatttgggt acgaagtgtg caaagtcaca gaccttttgc aaagaggttt ctagacagca 4920 gaagaaaacc cctctctcag cgctcatctc acgcagagga tgccaggcag ggtgaggatg 4980 ggggagtaga tgccgctttt gcagtggctc gcactgctgt ggccactgct gaccactgag 5040 gctcccagcg gagggtgttc acagccaggt cccgggccac ggagctccct tacttgaagt 5100 tctccttcag catagattag acgtgatcca ctttgctttc ttgcttctca cctcgccccc 5160 ttgcacattg cctgacaccc tcatattggc cagctgtaat ctcgtgacta tgggactgag gctcaatctt ggcttggggt gtttgaatgt ctatagcaaa ggaattcata atgggaaatc 5220 tttttcattt gagaaattgt atgatattta ttggttgtgt ctactgccaa catttatatc 5280 5340 caattctaag atttctgaaa aaaaattctt atcccttgct gctcagaaaa agtttacgga 5400 aaacaccagt tcactaaaag caccgaaatc tgcaaagect gtcttccgct agaacaacgt ctacaaatgt gaagatgatg acttctggca cgcggtcatg agggtgggga atggcactag 5460 5520 gagctgatgt ttgcctcatt taaagtaggc aagccgagcc aactgcagcc atcattcatt 5580 aagttttggg tagtgctcta atggtttgtt cactttaata aagacagatt ttggtaaagt 5640 agaatatttt tcattctgag catgtttgtc ccaaaaggtg atgcacttaa gctgacagtc 5700 ccttcagtgg ttttgttagg tcacggcttg tcctgtctgg attctgcatc tggaagcgct gcatgctctc agaggagcgt gccgtttccc ctgtagatgg atacttttgt tttgttgcct 5760 5820 atttaaaaac aattaagtgg ttatttgcag ttatttcaga actccaagta agtggatggc tttgggttct ttctgccttg gtcccaatgg tgttgatgct tctgtggagc gcggacattc 5880 ccaggagcag gtgcgtgcca gccatggctg ccagacactg ctgcaactga ccagctgccg 5940 6000 gaagattctg gagccactaa cattagtttt gcacatattt tcttgggagt gttacttgaa 6060 tctatctcaa actgcagaaa aaatcaaaag atcaataatt gggagaaaaa gagacaaatt taactgttac ataattttag atagacaaaa aacatgagtg agtcgtgtac ataaggaggg 6120 aacatggtac agaaggctag aaggaattat aggtcttatt cccctttcct cagtcctttg 6180 aagagaagta cagtctcttg cgattttgta tatatcgtgt tcgacacagc cgctctctgt 6240 cctgtaaata gggaactaaa ggctgtatga tttctcaagt gctgagttac acagtcctga 6300 6360 gtgagctttc tgttaccata ctttcacacg tgggctttat ttctcactgt atgtttgata tgatattact gtatttattt taagaaagca ctaagatgta ataaagtgat gaactaattt 6420 6480 gctttacatt gaatcgtatg tgtgaggttg ctgtggctca tttcgctgac caggcgacac caactccttg ctttatagga gtttcacatt gttctttacc atggccctat cgaagtcagt 6540 6600 ggaattggat tctttttaat gaagagctag aaaatatctg gcatagagct ggaaaattgc attcccatgg gacgtctgaa tcaattctgg attttctcca tggaatgagt cagtgtgtgg 6660 aacatcctga aacttgtcct taagcgtgta gttttcactg ttcgttgcga gtaagcacta 6720 6780 atgtggcatg gacattcctg atgtcccaag tccccaggcc agtgttcgcc taatgattga cagaagcgtc cctgcgttct tcatgcttgg acacagcaac ccttttaatt agtcttgaaa 6840 agtttcagac acaggattaa ttttcgtggt ggtgcttttg ggcctttctg gcttgggtgg 6900 tggtaaagtc atgattttgc agttgataac actgacttat aactctgttt atcaatgtct 6960 7020 cctatattca aagcccctgc agtggtattt gtgtctcgtt gcaaatttct ttcagcggaa agcttgcaca actttcgttg tgtctcagaa ttctaacctt gttatttaag acaagctgct 7080 ctacccattt aggatataac tttgtaaaga aagtgtaaac caaatgattc aatgtatgat 7140 gaagtttatg tgtaaatcct tggtaatgct agaattctgg gagcccagaa gggttgaaag 7200 agaaatgaaa cttgcgtgag tcccattatt ttacgcatgt atgtgcagat acgttctacc 7260 cacacgtgtg cgtgcacatg gctgtgtgcg tgcaccaaag atggactgct ttccatgtgt 7320 ccttttgact ttctgcacgt gtcactgcgg tgcagtctct tagcagactt caggcccaaa 7380 ctgtattctt cactcaggca aaattgaaaa gtggaataat tctaaattac ttctaggtta 7440 tacttttacc tecetgaaat tgtagttgte acttggaggg caaaatattt attgaaataa 7500 7525 aattttctgt taaaaattca tcact

<210> 12887

```
<211> 493
  <212> DNA
  <213> Homo sapiens
 <400> 12887
                                                                         60
  gaagggagac cgaggagcat cgtgtctagg aggcccagcg agggccccca gcctttggta
  cgaaggaaaa tgactggcag tcgcgacttg aataggactt ttaccccgat tccatgctca
                                                                        120
                                                                        180
  gaattcccca tgggcatcga ccccaccgag acaggaccac tgtcagtgga aaccgcagga
                                                                        240
  gaggtctgtg gtgggcctct ggcccttggc ggattcgatc cgttccccca gggaccatcc
  acggatggct tcttccttca tgtaggcagg gccgatgaag acaccgaggg aaggttatat
                                                                        300
                                                                        360
  gttagttgtt caaaaagccc caactcccac gattcagagc cgtggactct cctcaggcag
  gattctgact cggatgtggt ggacatagag gaagccgagc acgatttcat gggtgaggcc
                                                                        420
                                                                        480
  catcctgtgg ttttcagcag atacattggg gaggaagagt cggccaaact gcaggaggac
                                                                        493
  atgaaggtga agg
  <210> 12888
  <211> 121
  <212> DNA
  <213> Homo sapiens
  <400> 12888
                                                                         60
  cqcctqtggt cccagctact caggaggctg gggcaggaga atcacttgaa cctgggaggc
                                                                        120
  ggaggttgca gtgagccgag atcgcgccac tacactccag cctgggtgac agagcgagac
                                                                        121
  <210> 12889
  <211> 5476
  <212> DNA
  <213> Homo sapiens
<400> 12889
  agatggcggc gcctgagggg tcttgggggc tctaggccgg ccacctactg gtttgcagcg
                                                                         60
  gagacgacgc atggggcctg cgcaatagga gtacgctgcc tgggaggcgt gactagaagc
                                                                        120
  ggaagtagtt gtgggcgcct ttgcaaccgc ctgggacgcc gccgagtggt ctgtgcaggt
                                                                        180
  tcgcgggtcg ctggcggggg tcgtgaggga gtgcgccggg agcggagata tggtaagtag
                                                                        240
  cgggtccagg gaggggttcg gcggtggagg tcggtcggtt ggcaacagtg gggtctgtcg
                                                                        300
  gccgactcag gggtctgtgg tgagccataa ccggagtctg tggactgaac ggcgggagtc
                                                                        360
                                                                        420
  tatgggcaga atgatgaacc atctgggagt tctatggtga gccacggtgg ggggctcctt
  aatagaagtt tagtggggac tccgtgtggc agttccgtgg gaaaccatga tcgggggttc
                                                                        480
  ttagggcaga gggataagcg ggttgtaagg agtcacattg agtggtctgt agtgagccgt
                                                                        540
  gacgaggagt ccgtgtccgg gtatccgtgg acagccgcga ctgggggtgg gtgcgggtgc
                                                                        600
                                                                        660
  caggtgggtc tatgagataa acagggaggg gtgcgtggag aaccgcgatg ggaagtccgc
  agtgagttac gcggggtctg tgaggcgcca cgatggaggg tcgccatgac ccattagcga
                                                                        720
  gtgtggacgc agggagcggg tgtcggtggg tgcgtgatgg gaagtatgga gcagagtaat
                                                                        780
  aggatgtcag aggaagggat gggggtcagt ggggactgtg atggagaggt tttttggggg
                                                                        840
  ccccgatgtg aaatctgcag gcagagtggg gatccctgct gaccacggtg gagttgtaat
                                                                        900
  ggggggatga gccgccacgg tgggggctgc ttaaggatcc gtaatggggg tgtcctgcag
                                                                        960
                                                                       1020
  gagggagatg gttcagaccc agagcctcca gatgccgggg aggacagcaa gtccgagaat
  ggggagaatg cgcccatcta ctgcatctgc cgcaaaccgg acatcaactg cttcatgatg
                                                                       1080
  tgagcgcggg agagatgggc ggggctgaca ctggcagggt ggggtgaggc cgatgggccg
                                                                       1140
  cgcccctcac atctccatcg cctgccccat cctctgcagc gggtgtgaca actgcaatga
                                                                       1200
  gtggttccat ggggactgca tccggatcac tgagaagatg gccaaggcca tccgggagtg
                                                                        1260
  gtactgtcgg gagtgcagag gtgagggcca tggatggaca gggaaggcag gtggggcttc
                                                                        1320
  aagggaggag gaggagccac aagggggggt tatggggatt agtgatacac gtctgtggtg
                                                                        1380
  agctggaatg gggctccatt gtgagtaata gaagatccca cgggaagagg cagctctgcc
                                                                        1440
                                                                        1500
  ctggacaggg gtgcagagta ggtgggtggg tcagtaaggg agcgaagagg aagaaagagg
                                                                        1560
  ttttgggacc attcaagcca tccagtgctc actcactttg gccctactct ctgccccaca
  gagaaagacc ccaagctaga gattcgctat cggcacaaga agtcacggga gcgggatggc
                                                                        1620
  aatgagcggg acagcagtga gccccgggat gagggtggag ggcgcaagag gcctgtccct
                                                                        1680
```

1740 gatccagacc tgcagcgccg ggcagggtca gggacagggg ttggggccat gcttgctcgg 1800 ggctctgctt cgccccacaa atcctctccg cagcccttgg tggccacacc cagccaggtg agtggctgca taaagtgaat ggatgtgtaa agtggttccg tttcagccct gcctgggtcc 1860 atgatttctg ttctgggccc cctcctgcag catcaccagc agcagcagca gcagatcaaa 1920 1980 cggtcagccc gcatgtgtgg tgagtgtgag gcatgtcggc gcactgagga ctgtggtcac tgtgatttct gtcgggacat gaagaagttc gggggcccca acaagatccg gcagaagtgc 2040 cggctgcgcc agtgccagct gcgggcccgg gtgagcatgg acagagctgg gtagggtcag 2100 2160 gtgtgggaga gctggtgggt ccatgcatgg ttagttaagt ctaggcatgg ataaaccagg 2220 tgggattggg cctgactgta tcctgacagg tgggaagggg cctgtcatgt ccagatgaat ggggcatgac ctggtatgct gggctggcag aacaccccca ccaaccctgg gtagacagag 2280 2340 tggggccagg tgttttcagg tggtcatgca tgttggtaca gatcaggcag ggctgagcat 2400 tcctggcaat gaggggtagc ggggaggtgt gtctggggag gtaaggccag gccaggtggg tagggctagg gcaaggccgc cctccatcca cctggggctg acctgggcct tcctcctgcc 2460 2520 ggcacaggaa tcgtacaagt acttcccttc ctcggtgagt ccagcccccc agggtggggt 2580 qqqqcatqcq qqcaggqcgg tcagggccag tcctgagatt ctgccctgca gctctcacca 2640 gtgacgccct cagagtccct gccaaggccc cgccggccac tgcccaccca acagcagcca 2700 cagccatcac agaagttagg gcgcatccgt gaagatgagg gggcagtggc gtcatcaaca 2760 gtcaaggagc ctcctgaggc tacagccaca cctgagccac tctcagatga ggacctacct 2820 ctggatcctg acctgtatca ggacttctgt gcaggggcct ttgatgacca tggcctggtg 2880 agcagacagg agcatccact ggtggaaggg tggaggttac agaagcagag agtatcccta atgaggagac agagggtatg gaaggctgat atgggacatg agtaggtggt ggggttgtca 2940 cgagcggggc aggtgggtca gtgcatgccc tgcttgcagc cctggatgag cgacacagaa 3000 gagtccccat tcctggaccc cgcgctgcgg aagagggcag tgaaagtgaa gcatgtgaag 3060 3120 cgtcgggaga agaagtctga gaagaaggtg atggagaggg taaagtggat gtggaaaggc 3180 agagggtggg gttgagggag aggcagaggt cagaggctga atggggcaag agccagaaag 3240 ttgtcttgct caacagaagg aggagcgata caagcggcat cggcagaagc agaagcacaa 3300 ggataaatgg aaacacccag agagggctga tgccaaggac cctgcgtcac tgccccagtg 3360 cctggggccc ggctgtgtgc gccccgccca gcccagctcc aagtattgct cagatgactg 3420 tggcatgaag ctggcagcca agtgagtcat tcctgagagg ttcaagggag tcaggaagtg 3480 catggtaggg cctgaccaca gccttctgta tgtctaccag tcaatcagct atccaccagt 3540 caccaaacag ccactaccca ctcacccatc cacctaccca cccacctgcc cgtgtgtcca 3600 tccagccacc attccgccag tcacctattt acttctcctt ttgccatttg cgtctatttt 3660 gccattctca cttactgatc acctcactca ttctgttgct tgctaccttc cctgcagccg 3720 catctacgag atcctcccc agcgcatcca gcagtggcag cagagccctt gcattgctga 3780 agagcacggc aagaagctgc tcgaacgcat tcgccgagag cagcagagtg cccgcactcg 3840 ccttcaggaa atggaacgcc gattccatga gcttgaggcc atcattctac gtgccaagca 3900 gcaggctgtg cgcgaggatg aggaggtgag caagcagggg cgcagcagag cagggcctgt 3960 actttgtcct tcccagcctt attgttcctt ccattccatg cagagcaacg agggtgacag 4020 tgatgacaca gacctgcaga tcttctgtgt ttcctgtggg caccccatca acccacgtgt 4080 tgccttgcgc cacatggagc gctgctacgc caaggttggg gtgtcagact gagggggcgg 4140 accatgtggg aacatcagtg ggccagtggg ggacagattt gttgtctggg tggtgtcttg 4200 ggagggcatg cagcgcacat ccacagttcc ctccatttgt gctcatccct ccagtatgag 4260 agccagacgt cctttgggtc catgtacccc acacgcattg aagggtaagt gagggtgcca 4320 cgcagtgaga ggtggggggt taaggcgggg gtcagaagtg ggatgtgtgt ggagctgggg 4380 caggatacgg gcaaccagcc aggacagatg gacctccctt ccctcctct actgccctct 4440 ctactccaaa tccccagggc cacacgactc ttctgtgatg tgtataatcc tcagagcaaa 4500 acatactgta agcggctcca ggtgctgtgc cccgagcact cacgggaccc caaagtaagg 4560 ttttccctca gctcctccca ttttgcccct cctccctgcc tcgctgtccc acattcatcc 4620 cttccttcct cacctcactt ttccttcact ttttcctctc agcttccctg ctgcttcacc 4680 ctccattcct ccttttccat gcctcctcac cgttccctga accctccatt cttttccttc 4740 tccctccttg agcccccatt cctattctcc cttatcaccg ctattcatcc ccccaacctg 4800 gcctccttgc aggtgccagc tgacgaggta tgcgggtgcc cccttgtacg tgatgtcttt 4860 4920 gageteaegg gtgaettetg eegeetgeee aagegeeagt geaategeea ttaetgetgg 4980 gagaagctgc ggcgtgcgga agtggacttg gagcgcgtgc gtgtggtagg tttctgtgcg 5040 gttttggtgc tgcatgtggt aggtttccat gtcggacgtg gccggggcag gcggggctgc 5100 aggtgttcct gcttaggact cctgccgctc ccttggcagt ggtacaagct ggacgagctg 5160 tttgagcagg agcgcaatgt gcgcacagcc atgacaaacc gcgcgggatt gctggccctg 5220 atgctgcacc agacgatcca gcacgatccc ctcactaccg acctgcgctc cagtgccgac cgctgagcct cctggcccgg accccttaca ccctgcattc cagatggggg agccgcccgg 5280 5340 tgcccgtgtg tccgttcctc cactcatctg tttctccggt tctccctgtg cccatccacc

```
ggttgaccgc ccatctgcct ttatcagagg gactgtcccc gtcgacatgt tcagtgcctg
                                                                     5400
                                                                     5460
gtggggctgc ggagtccact catccttgcc tcctctccct gggttttgtt aataaaattt
                                                                     5476
tgaagaaacc aaggaa
<210> 12890
<211> 5476
<212> DNA
<213> Homo sapiens
<400> 12890
agatggcggc gcctgagggg tcttgtgggg ctctaggccg gccacctact ggtttgcagc
                                                                       60
ggagacgacg catggggcct gcgcaatagg agtacgctgc ctgggaggcg tgactagaag
                                                                      120
                                                                      180
cggaagtagt tgtgggcgcc tttgcaaccg cctgggacgc cgccgagtgg tctgtgcagg
ttcgcgggtc gctggcgggg gtcgtgaggg agtgcgccgg gagcggagat atggtaagta
                                                                      240
gcgggtccag ggaggggttc ggcggtggag gtcggtcggt tggcaacagt ggggtctgtc
                                                                      300
ggccgactca ggggtctgtg gtgagccata accggagtct gtggactgaa cggcgggagt
                                                                      360
                                                                      420
ctatgggcag aatgatgaac catctgggag ttctatggtg agccacggtg gggggctcct
                                                                      480
taatagaagt ttagtgggga ctccgtgtgg cagttccgtg ggaaaccatg atcgggggtt
                                                                      540
cttagggcag agggataagc gggttgtaag gagtcacatt gagtggtctg tagtgagccg
                                                                      600
tgacgaggag tccgtgtccg ggtatccgtg gacagccgcg actgggggtg ggtgcgggtg
                                                                      660
ccaggtgggt ctatgagata aacagggagg ggtgcgtgga gaaccgcgat gggaagtccg
                                                                      720
cagtgagtta cgcggggtct gtgaggcgcc acgatggagg gtcgccatga cccattagcg
                                                                      780
agtgtggacg cagggagcgg gtgtcggtgg gtgcgtgatg ggaagtatgg agcagagtaa
                                                                      840
taggatgtca gaggaaggga tgggggtcag tgggggactgt gatggagagg ttttttgggg
gccccgatgt gaaatctgca ggcagagtgg ggatccctgc tgaccacggt ggagttgtaa
                                                                      900
                                                                      960
tggggggatg agccgccacg gtgggggctg cttaaggatc cgtaatgggg gtgtcctgca
                                                                     1020
ggagggagat ggttcagacc cagagcctcc agatgccggg gaggacagca agtccgagaa
                                                                     1080
tggggagaat gcgccatct actgcatctg ccgcaaaccg gacatcaact gcttcatgat
                                                                     1140
gtgagcgcgg gagagatggg cggggctgac actggcaggg tggggtgagg ccgatgggcc
                                                                     1200
gegeeetta cateteeate geetgeeeca teetetgeag egggtgtgae aactgeaatg
agtggttcca tggggactgc atccggatca ctgagaagat ggccaaggcc atccgggagt
                                                                     1260
                                                                     1320
ggtactgtcg ggagtgcaga ggtgagggcc atggatggac agggaaggca ggtggggctt
caagggagga ggaggagcca caaggggggg ttatggggat tagtgataca cgtctgtggt
                                                                     1380
                                                                     1440
gagctggaat ggggctccat tgtgagtaat agaagatccc acgggaagag gcagctctgc
                                                                     1500
cctggacagg ggtgcagagt aggtgggtgg gtcagtaagg gagcgaagag gaagaaagag
                                                                     1560
gttttgggac cattcaagcc atccagtgct cactcacttt ggccctactc tctgccccac
                                                                     1620
agagaaagac cccaagctag agattcgcta tcggcacaag aagtcacggg agcgggatgg
caatgagcgg gacagcagtg agccccggga tgagggtgga gggcgcaaga ggcctgtccc
                                                                     1680
                                                                     1740
tgatccagac ctgcagcgcc gggcagggtc agggacaggg gttggggcca tgcttgctcg
                                                                     1800
gggctctgct tcgccccaca aatcctctcc gcagcccttg gtggccacac ccagccaggt
                                                                     1860
gagtggctgc ataaagtgaa tggatgtgta aagtggttcc gtttcagccc tgcctgggtc
                                                                     1920
catgatttct gttctgggcc ccctcctgca gcatcaccag cagcagcagc agcagatcaa
                                                                     1980
acggtcagcc cgcatgtgtg gtgagtgtga ggcatgtcgg cgcactgagg actgtggtca
ctgtgatttc tgtcgggaca tgaagaagtt cgggggcccc aacaagatcc ggcagaagtg
                                                                     2040
ccggctgcgc cagtgccagc tgcgggcccg ggtgagcatg gacagagctg ggtagggtca
                                                                     2100
                                                                     2160
ggtgtgggag agctggtggg tccatgcatg gttagttaag tctaggcatg gataaaccag
                                                                     2220
gtgggattgg gcctgactgt atcctgacag gtgggaaggg gcctgtcatg tccagatgaa
                                                                     2280
tggggcatga cctggtatgc tgggctggca gaacaccccc accaaccctg ggtagacaga
                                                                      2340
gtggggccag gtgttttcag gtggtcatgc atgttggtac agatcaggca gggctgagca
ttcctggcaa tgaggggtag cggggaggtg tgtctgggga ggtaaggcca ggccaggtgg
                                                                      2400
                                                                      2460
gtagggctag ggcaaggccg ccctccatcc acctggggct gacctgggcc ttcctcctgc
                                                                      2520
cggcacagga atcgtacaag tacttccctt cctcggtgag tccagccccc cagggtgggg
                                                                     2580
tggggcatgc gggcagggcg gtcagggcca gtcctgagat tctgccctgc agctctcacc
                                                                      2640
agtgacgccc tcagagtccc tgccaaggcc ccgccggcca ctgcccaccc aacagcagcc
acagccatca cagaagttag ggcgcatccg tgaagatgag ggggcagtgg cgtcatcaac
                                                                      2700
agtcaaggag cctcctgagg ctacagccac acctgagcca ctctcagatg aggacctacc
                                                                      2760
                                                                      2820
tctggatcct gacctgtatc aggacttctg tgcaggggcc tttgatgacc atggcctggt
gagcagacag gagcatccac tggtggaagg gtggaggtta cagaagcaga gagtatccct
                                                                      2880
                                                                      2940
aatgaggaga cagagggtat ggaaggctga tatgggacat gagtaggtgg tggggttgtc
acgagcgggg caggtgggtc agtgcatgcc ctgcttgcag ccctggatga gcgacacaga
                                                                      3000
```

<400> 12892

```
3060
agagtececa tteetggaee eegegetgeg gaagagggea gtgaaagtga ageatgtgaa
gcgtcgggag aagaagtctg agaagaaggt gatggagagg gtaaagtgga tgtggaaagg
                                                                  3120
                                                                  3180
cagagggtgg ggttgaggga gaggcagagg tcagaggctg aatggggcaa gagccagaaa
3240
cttgtcttgc tcaacagaag gaggagcgat acaagcggca tcggcagaag cagaagcaca
                                                                  3300
                                                                  3360
aggataaatg gaaacaccca gagagggctg atgccaagga ccctgcgtca ctgccccagt
                                                                  3420
gcctggggcc cggctgtgtg cgcccgccc agcccagctc caagtattgc tcagatgact
                                                                  3480
gtggcatgaa gctggcagcc aagtgagtca ttcctgagag gttcaaggga gtcaggaagt
gcatggtagg gcctgaccac agccttctgt atgtctacca gtcaatcagc tatccaccag
                                                                  3540
                                                                  3600
tcaccaaaca gccactaccc actcacccat ccacctaccc acccacctgc ccgtgtgtcc
atccagccac cattccgcca gtcacctatt tacttctcct tttgccattt gcgtctattt
                                                                  3660
                                                                  3720
tgccattctc acttactgat cacctcactc attctgttgc ttgctacctt ccctgcagcc
                                                                  3780
gcatctacga gatcctcccc cagcgcatcc agcagtggca gcagagccct tgcattgctg
aagagcacgg caagaagctg ctcgaacgca ttcgccgaga gcagcagagt gcccgcactc
                                                                  3840
gccttcagga aatggaacgc cgattccatg agcttgaggc catcattcta cgtgccaagc
                                                                  3900
agcaggctgt gcgcgaggat gaggaggtga gcaagcaggg gcgcagcaga gcagggcctg
                                                                  3960
                                                                  4020
4080
gtgatgacac agacctgcag atcttctgtg tttcctgtgg gcaccccatc aacccacgtg
ttgccttgcg ccacatggag cgctgctacg ccaaggttgg ggtgtcagac tgagggggcg
                                                                  4140
                                                                  4200
gaccatgtgg gaacatcagt gggccagtgg gggacagatt tgttgtctgg gtggtgtctt
gggagggcat gcagcgcaca tccacagttc cctccatttg tgctcatccc tccagtatga
                                                                  4260
gagccagacg tcctttgggt ccatgtaccc cacacgcatt gaagggtaag tgagggtgcc
                                                                  4320
acgcagtgag aggtgggggg ttaaggcggg ggtcagaagt gggatgtgtg tggagctggg
                                                                  4380
gcaggatacg ggcaaccagc caggacagat ggacctccct tccctcctc tactgccctc
                                                                  4440
tctactccaa atccccaggg ccacacgact cttctgtgat gtgtataatc ctcagagcaa
                                                                  4500
aacatactgt aagcggctcc aggtgctgtg cccgagcact cacgggaccc caaagtaagg
                                                                  4560
ttttccctca gctcctccca ttttgcccct cctccctgcc tcgctgtccc acattcatcc
                                                                  4620
cttccttcct cacctcactt ttccttcact ttttcctctc agcttccctg ctgcttcacc
                                                                  4680
                                                                  4740
ctccattcct ccttttccat gcctcctcac cgttccctga accctccatt cttttccttc
tccctccttg agcccccatt cctattctcc cttatcaccg ctattcatcc ccccaacctg
                                                                  4800
                                                                  4860
gcctccttgc aggtgccagc tgacgaggta tgcgggtgcc cccttgtacg tgatgtcttt
                                                                  4920
gageteaegg gtgaettetg eegeetgeee aagegeeagt geaategeea ttaetgetgg
                                                                  4980
gagaagctgc ggcgtgcgga agtggacttg gagcgcgtgc gtgtggtagg tttctgtgcg
                                                                  5040
gttttggtgc tgcatgtggt aggtttccat gtcggacgtg gccggggcag gcggggctgc
                                                                  5100
aggtgttcct gcttaggact cctgccgctc ccttggcagt ggtacaagct ggacgagctg
tttgagcagg agcgcaatgt gcgcacagcc atgacaaacc gcgcgggatt gctggccctg
                                                                  5160
                                                                  5220
atgctgcacc agacgatcca gcacgatccc ctcactaccg acctgcgctc cagtgccgac
cgctgagcct cctggcccgg accccttaca ccctgcattc cagatggggg agccgcccgg
                                                                  5280
tgcccgtgtg tccgttcctc cactcatctg tttctccggt tctccctgtg cccatccacc
                                                                  5340
                                                                  5400
ggttgaccgc ccatctgcct ttatcagagg gactgtcccc gtcgacatgt tcagtgcctg
gtggggctgc ggagtccact catccttgcc tcctctccct gggttttgtt aataaaattt
                                                                  5460
                                                                  5476
tgaagaaacc aaggaa
<210> 12891
<211> 128
<212> DNA
<213> Homo sapiens
<400> 12891
cccagctact cggaaggctg aggcaggata atcgcttgaa cccgggaggc ggaggttgca
                                                                    60
gtgagctgag atcgcgccat tgcactccag cctgggcaac aagagtgaaa ctccgtctca
                                                                    120
                                                                    128
aaaaataa
<210> 12892
<211> 1767
<212> DNA
<213> Homo sapiens
```

```
60
cacggacaca ggaagtggcc gcacaatgca acatctactt accctctgag ggatggtttg
agtccctgtc atcgaagggt agactggcag aggaactaga agatgcagac aaggccctct
                                                                      120
                                                                      180
tggtacctcc cgcagctctc tgcagtgggg aagacatgct tggtgaggag gagctatggg
gccaggaaga cgaggaccgc aggtaggttt ggcaatccag ctggggaaga aagagaagaa
                                                                      240
agggctccta ccacagcact tctccatccc cagccgtgag cagtcccttt ctttgcaagg
                                                                      300
                                                                      360
gaatggttct agaactctgg ggtcgggtga gggggaccaa aaactaagac aaaggctggg
                                                                      420
caccgtggct catgcctata atcccagcac tttgggaggc cagggcagga ggatggcttg
agcccaggag ttcaagacca gcctgggcta tagagcaaga ccccatttct acaaaaacaa
                                                                      480
taataataat tagccaggta tggtagcgca tgcctgtatt cagctattca ggaggctgag
                                                                      540
gtgggaggac tgcttgagtc caggagttca aggctgcagt gagctatgat cgcaccactg
                                                                      600
                                                                      660
tactccagcc tgggtgacaa ggtgagactc tgtctcaaaa aataaaaaaa atgaaagaaa
                                                                      720
agaagacatt atgggatgca agtctgcaaa gccttaacta caaactaaag aaaccaaaag
                                                                      780
gaaaaggaag actttaaaat acaggagtag aaccatctca ttttccccat agtccaatag
                                                                      840
gtccctgcaa ttgatcccca aatgcttaaa acaaggccgg gcgcggtggc tcacgcctgt
aatcccagca ctttgggagg cccagggagg tgaatcactt gaggtcagga gtttgagatc
                                                                      900
                                                                      960
agcctggcca acatggtgaa accccgtctc tactaaaagt acaaaaatta gccaggtgtg
                                                                     1020
gtgtgagtgc ctataatccc agctactcgg gaggctgagg caggagaatc gcttgaactt
                                                                     1080
gggaggcgga ggttgcagtg agcagagatc atgccactgc actccagcct gggcgacgag
                                                                     1140
tgatattgtc actgtctccc ccttgctaac ctcctaggtg cttaggataa aacgtcaaat
                                                                     1200
atttaacatg gcttcacaga catcttgtat catttggccc ctggctacct tacctcaccc
                                                                     1260
aatttcctcc tttgctctgt actctagcta cactgtccga ggagttccta aaacatcacg
ctgggtccga ccacaggatc ttcacatgtg ctgctccctc tatctgcatc gctctttcct
                                                                     1320
                                                                     1380
cttctcttgt ttgcttaact cctatttacc ctcgggctta atcagcactt tctcacctct
                                                                     1440
cctagtctgt tgctcttatt taagatcaaa cagcagagaa atgtgaagtc cactgacttc
cgggtggaac agggttcagt atgccaatta aattattggg tgctggctgg gcacggtggc
                                                                     1500
                                                                     1560
tcacacctgt aatcccagca ctttggaagg gcaaggcggg tagatcactt gaggtcagga
                                                                     1620
gtttgagagg acaacatgat gaaactccat ctctactgaa acacaaaaat tagctgggct
                                                                     1680
tggtcgtggg cacctgtaat cccagctact caggaggctg aggcaggaga atcacttgga
cgcaggaggg ggagggtgca gtgagccgag atcgcaccac tgtactctag cctgagcgac
                                                                     1740
                                                                     1767
agggtgactc catctcaaaa aaaaaaa
<210> 12893
<211> 481
<212> DNA
<213> Homo sapiens
<400> 12893
cagcactttg ggaggccgag gtgggcagat cacctgaggt caggagttcg agaccagcct
                                                                       60
ggccaacatg gtgaaacccc atctctacta aaaatacaaa aattagccag gcatggtggc
                                                                      120
gggcgcctgt aatcccagct actcgggagg ctgaggcagg agaatcgctt gaaccgggga
                                                                      180
ggtggaggtt gcagtgagcc gagatcacgc cattgtacac cagcctgggc aacaagagtg
                                                                      240
                                                                      300
aaactccatt tccaaaaaaa tagtatcagc cgggcatggt ggctcttgcc tgtaatccca
                                                                      360
gcactttggg aggccatggt gggcagatcg cttgagcccg ggaggttgag gctgcagtga
                                                                      420
gctataatcg caccattgca ctccagcctg ggtgacagag agagaccctg tctcaaaaaa
gaaaagaaaa tgtctactaa gacctccact ccctataatg gcacattaag tatctccaac
                                                                      480
                                                                      481
С
<210> 12894
<211> 6031
<212> DNA
<213> Homo sapiens
<400> 12894
                                                                       60
gatcacgctg accaccattg gctacgggga caagtacccc cagacctgga acggcaggct
ccttgcggca accttcaccc tcatcggtgt ctccttcttc gcgctgcctg cagtaagtcc
                                                                      120
                                                                      180
agctgcccct gcctgccttg gagggggacg aggtcttgta ggctcccgag gtgaccacag
                                                                      240
gcccctgggc acagttccct aggtgggacc tggggcagga gcagctctca gcaggtccac
agcccccagg agctggaggt ggcagctcag ggtcagaggc cttgttcccc aaggactgga
                                                                      300
gtgggggttc cccagccccg acaggagcat gcccaaggct gcggctgtag cttcaggggg
                                                                      360
```

420 ctctgttagt cactggtggc ccctcttagt ctgagtgggg ctgagcagga ggtccttgtg 480 accaggagca gggcggctgg tgacacaggt ccctcatggg tctctaggca gtgaggccca 540 gcagggcagc tggtgcacgg caagaggctg gccccggtgt ccccttcact gtgtgccctt 600 660 caagatgggc ctgcagactc ttctgtgtgg aagggaaaga ggccactctg agttcagtgt gggtcctgcc atgtctcctg caagccagag ggttccttcc tcttgatgct gacaaattgt 720 780 ggggatatgg gttcctggat tagtctgacc ttgatgaagg tgggggaggc atggatcggt ggagacgggt ctgaccctga tgaactgggg ggtgtgtgag tccctggggc gtggtctgac 840 cctgatgaat tggggggtgt gtgagtctct ggagtgtggt ctgaccctga tgaattgggg 900 ggggtgtggg gccccagagc atggtctgac cctgatgaat tggggtgtgg ggggtccctg 960 gggtgtgacc tgaccctgat gaattgcagg gcatcttggg gtctgggttt gccctgaagg 1020 1080 ttcaggagca gcacaggcag aagcactttg agaagaggcg gaacccggca gcaggcctga tccaggtgag tccaggtgtc ccccggggac cagcacagcc cttgtcctgg tcccaccttg 1140 ttgaggagtg gaggccgctg gggctttggc attgccctgt ctgtggatgg gccacagcgc 1200 1260 tcaccctctg caggaatctg tggaaggagc gaggatgtga agtgtgtgtg ttgagaaatg 1320 gctccaaccc ctgaggctgc acaggggtgg ctcgtgtgag gacgctgggg tggcccttgc 1380 cttgtgtggg tgctggggcc cggccatcag gtcctctcta ccgcaccctg ggaggtgagc 1440 acaccegtte tgeagetgea gggeeaagge teetagagee cacacactge agtgagteag 1500 tgcctgacct cgtctgaccc ctgatgctgg ctgtgggccc ccatgatgcc cgcccggacc 1560 ccacccagtg ccgtcccacc atttgggggt gggtagcgtg cagtgaccac tgtggcatcc 1620 acaagtaatt cctgagccac cttgaaaata cggacagaca atggccgggc acagtggctc 1680 acgcctgcaa tcccagcact ttgggaggcc gaggtgggag gatcacgagg tcaggaaatc 1740 aagaccagcc tggccaacat ggtgaaaccc tgtctctcct aaaaatacaa aaattagctg 1800 ggcgtggtgg cgtgcgtctg taatcccagc tactcgggag gctgaagcag gagaatcgct tgaaccaggg aggcggaggt tgcagtgagc cgagatcacg ccacagcact ccagcctggg 1860 1920 tgacagagcg agactccgtc tcaaaaaaaa agagaaaata tggacagaca gcaggacccc 1980 cttgggacca gccattcttg cagctcctcc ccaaagtctt ccatccactg gacccgcaga gctgaccagg atccctgcca gcggaatgtg gctataggct ctctcctgtc ttagacagca 2040 aatcttgaga tggagataat cctgggttac cccaggtggg ccgtaaatgc aatcacatgc 2100 2160 atccttataa gaaggagatt tgacacagag gaggggaaag cagtgtgacc acaaaggcgg agactggaga cgtggccaca agccgcggag tgtcagtggc cactgcaggg gatgtgcctc 2220 ttgtggtctt ggctctgggt ccagcctacc ttaaggtgtg tatttatctt ccactataaa 2280 2340 aactacaaac agctatttat ttccaggcaa gagttttaag aagaaccaaa atgcccccaa atctcactcc actattgacg gtttaaaaag tgaccacgta cgtgtggtga aaaggttaca 2400 atagtgccag aaaaagcagc gtctgagcac ccagggtccc atgcgccctg cttccctcga 2460 aggtcactct tagcagctgg tgcacatttc cagagcacag ctgggcctct ccacaggcgc 2520 acctcagagg acctgcagcc gtggttccag accactacgg tagagatacg gcaataaagc 2580 gagtcacaca aatttcgtgg tttcccagtg catatggaag ttatgtttac aggctgggca 2640 2700 ccgtggctcc cacctgtaat cccagcactt taggaggctg aggcaggcag atctcttgag 2760 gtcaggagtt cgagaccagc ttagccaaca tggtgaaacc ccatctctac taaaaataca aaaaaattag ctgggcgtgg tggcacacgc ctgtaatccc agctactcag gaggctgagg 2820 2880 caggagaatc acttgaaccc gggagacgga ggttgcagtg agccgagatt gcgccactgc attccagcct gggaaacagc ccgagactcc gtctcaaaaa aaaaaaaaa aaaagttatg 2940 tttataccat gccatagctt actaagtgtg cagtagcatt atgtctaaaa aacagtaaaa 3000 cactgcacgt actttcactt acaaatactt aattgctaaa aaaatactaa caatcacctg 3060 agccttctgc gagttgcaat ctttgtgctg gtagggggtc tcacctcgat gctggtggcc 3120 actgctgatg aggtggggct gctgaaggct ggggctgtgg cgattttttt ttttttttg 3180 3240 agacggagtc tcgctctgtt gcccaggctg gagtgcagtg gtgcgatctc agctcactgc aagctccacc tccctggttc ctgccattct cctgcctcag cctcccaggt agctgggact 3300 3360 acaggcaccc accaccacgc ctggctaatt ttttgtattt ttagtagaga cggggtttca 3420 ccgtgttagc caggatggtc tcgatctcct gacttcgtga tcctcccgcc ttggcctccc 3480 aaagtgctgg gattacaggc gtgagccact gcgcccggct gtggtgattt cttaaaataa ggcaagaatg aggtttgccg catcgattca ctcttccttt cacgaaagat ttctctgcag 3540 catgcgattc tgttggatag cgttttaccc agtggacctc ctttcagcat cgcagtcagt 3600 cctctcaaat gctgccactg ctgtatcaac taagtttata taatgttctc attccttgtc 3660 3720 atttcaacac agttcacaac atctttgcct ggagtagatt ctgtcgacca aaaaaaaaa aaaagaaacc acacacatgt caaatgtatt tgggaattag aagaaaggat tataaccaga 3780 gatgaaccac tgtggccaga gggtggggga ctctcgagag atgagccagt gtggcgagcc 3840 acccatgtgc cggagaggga ggggcaggga agctctccct ggctgagaag ttcacataag 3900 ctgcttggaa acagagttca ctggctctga ggctgaaaac cagagttggc agccgttcac 3960 tggttgagat gccgctgctg ggccagtgtt cttcctagag catcttgtct gaattgctgc 4020

```
4080
attcctgata aggaattcct tgtggggtta ttttagaatg tctttgacac tgtcctcatc
tcagccatgc aggcgtgagc cctgccgccg tgtactctct ggcctcggtt ggtttggacc
                                                                     4140
                                                                     4200
tgacagaagt gaccttaccc tgctgtctgc agtgttcacc gtccatccca agaaaccact
tactttgctc atccataaat gctgctcctc acctgttaga gttttatcct gagatggcag
                                                                     4260
cagttcagtc ccgtcttcag gctccacgtt aggatggcca acttttttt tttgttgttg
                                                                     4320
ttgagatagg gacttgctct cttgcccagg ctggagtgca gttgtgtgat cttggctcac
                                                                     4380
                                                                     4440
tgcagcctcg acctgccagg ttcaagcgat cctcccacct tagcctcctg agtaactggg
actacaggtg tgcaccacca tatctggcta attttttgtt ttaagtaaag gcagggtttt
                                                                     4500
                                                                     4560
gccatgtttc ccaggctggg cttgaactcc tgggctcagg cgatccacct gcttcagcct
ccaaggtgtt gtgagcctct gcgccaggcc agggcggctg acatgttagc aaatggcaaa
                                                                     4620
                                                                     4680
tcagcgtagt gaggatgtgt ggacaccgcc cccctgctg gtaggaatgt agcgatgcag
                                                                     4740
tcaccctgga aagcagttcg gttgtttctc agaaagttcg taaacgtgga gttgtcacgt
                                                                     4800
gacceggeca ttetacetet aggtatagae agacacaaaa gaattgaaaa cagacettea
                                                                     4860
accaaaaacg tgcacacaaa tttcacagca gcaccactca taggaaccaa aaagtggaaa
                                                                     4920
cagctgaaat gtctattaat ggatgaacgg aatgtgattt atccatacga tcctcctatc
aggaggagcg ggcgctgccc cttgctacga cgcggatggg ccgcggggac gtcacgctca
                                                                     4980
                                                                     5040
gtggagggag ccagacgggg aaggccgtgc agcttgcgat gcccttggca ggaaatgccc
                                                                     5100
ggggcgggga agtccgtgga gccccgtaca ccctggcggt ggccagggcc tgggggacca
                                                                     5160
ggaaccagga gcgcctgctg aacgtcgggg gtaggagggg gtttatttgg gggcgacgaa
                                                                     5220
gaggtgtgga gttagatagg ggcagtggtc gcacagcact gtgtgtgcag gcgctactga
                                                                     5280
agtgcacgct ttaacatggc taacatggtg aacttcagga tatgtctatt tcagcaccgc
aaaacaaaac aaaggcatag agaacggaaa tccagccagg cgaggttcag tctgacgtac
                                                                     5340
                                                                     5400
aggeteatge ecegageegg getgagteee egecetggga ggttggagge tgaggteeet
ggccctaccc atactcccag cgcctcaggt tgcccagggc ccaaccagga ggtcaggaag
                                                                     5460
                                                                     5520
gtaaccccca ggacaggtga tacccgccag gggccaggta agagtcatga aaaggaaaga
acacageete eetgegaget egeteaggge eeegagteaa geeecaaceg eteceeteet
                                                                     5580
                                                                     5640
tcaggcccca ccgtctgaca agcgggcttg cctgtctgtc ctacagaggg taaactgagg
ctgtggggct gatgcagcac tggggcctgg cctgctggcc cagagtcctg agtgcctggc
                                                                     5700
ctacagcatg ggggtcccct ctgccccgtt ccctccacgc ccggccctcc tgggcgcgcc
                                                                     5760
cctcgccgcc tgcccctcgc caactgcctt gtctttccct ccgcagtcgg cctggagatt
                                                                     5820
ctacgccacc aacctctcgc gcacagacct gcactccacg tggcagtact acgagcgaac
                                                                     5880
ggtcaccgtg cccatgtaca ggtaccgccg ccgggcacct gccaccaagc aactgtttca
                                                                     5940
ttttttattt tccatttgtt cttaaacccc actttttgtt gttcattatt ttgattgatt
                                                                     6000
                                                                     6031
tttttcttta aaatgtattt ttcacaaagg a
<210> 12895
<211> 186
<212> DNA
<213> Homo sapiens
<400> 12895
                                                                       60
aatacaaaaa attagccggg tgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc
tgaggcagga gaatggcgtg aacctgggag gcggagcttg cagtgagccg ggatcacgcc
                                                                      120
actgcactcc agcctggggg acagagcgag actctgtctc aaaacaaaca aacaaacaaa
                                                                      180
                                                                      186
caaaaa
<210> 12896
<211> 1015
<212> DNA
<213> Homo sapiens
<400> 12896
gtttaacata aatcaaatag ttccaatggg ttgcttcata tttgtgtgta ctttaaagtc
                                                                       60
atgccagctt aaatgactgt gaggtacaat gtgttgactt tgagttttgt aaattgataa
                                                                      120
tttgttgcta tgaaagttgt ccatggtata actcatcact ttttgaaggt acttagtatg
                                                                      180
tctgatactg gcaagctgtc atgaaaaaat tgatgcccag ggaattccgg ggttttgctt
                                                                      240
tcagatgttt gacatgtaga tatttaattc ttcttaagat ttccctggac attgtcagtg
                                                                      300
                                                                      360
taaggtgtac tgatctttaa acacaaactt tagtttgggc tcctgtttct cagcattctt
tgggataata atctgaatgg tgtattctca agtttttttt ttttttttt tttttaagtg
                                                                      420
```

```
480
tatqaatcac cttggggatc ttgttaaaag gcaggctatg atccagtggg tctgggatga
gtcttgggat tctacatttt cgcaagctcc cagataatgc cagtgctgct ggtccacaga
                                                                    540
cagtacttta agcagcaaga caacactttg atggacaaag tggtgctgtg caacacccat
                                                                    600
cacatacaaa ttaccagttg ctttcctcat tgtgttttgg tgcatctaaa gctaagatga
                                                                    660
                                                                    720
tctggtgtat attcttgact cttgggtatc cctgtgagca ttaatgaata gtttaacaac
                                                                    780
cgaccatttg gtctagcatg tatggagact accaagacag gcttattgtg ttggaagaag
                                                                    840
tgatgcttat gtttttagac tcttatggaa tataccaatt cctgtatgtt agccaaggtt
                                                                    900
cttgctgcaa acagaagtga atacaacaaa ctgctaactt gaaaagatgc tgatagaggg
gttagaaagg catagtgctg aatcaaatgt atttatttta actagctctg ttcatgatgg
                                                                    960
ctggttaatt tgggcaaaaa gatttattga tgaatcatgg agaaaaagtg ggaac
                                                                   1015
<210> 12897
<211> 462
<212> DNA
<213> Homo sapiens
<400> 12897
gcacaggttt gtcttattaa tctacaagtc tgggcaactc ttattattta atagaaagtc
                                                                     60
ctagctaccg tcattcactt tatttttct ttctgctata attgcaatgt aaacaactta
                                                                    120
gcacaatttc ttgaggagtg catgtttctc tttttgctct tgtttagaat cccttccctc
                                                                    180
cttatccatg tggtgaagcc tgagatgagc taaatatctt ctcttttctg cagccattct
                                                                    240
                                                                    300
ttttgtttct tcccatgccc aacttcaaag atttactccc tccaaggtca gtggtgccat
                                                                    360
gatgtggaac ttatactact cgtatggttg tttttctcca gaaagcctag gagctccttg
                                                                    420
aggacgagac tattggctta aagatatagt aggtactcaa ta
                                                                    462
<210> 12898
<211> 537
<212> DNA
<213> Homo sapiens
<400> 12898
ccttggtaat ataggaaacc ttcttgccaa tataggaata tgttgacata ttagctatag
                                                                     60
caaaaggctt atattagcac cgaatgaggc tctgctgcat ccattcacct agggaatatg
                                                                    120
cactgtggcg cttcccaaag gatcacttgc aggtacctca gtgtacctga tggcttgact
                                                                     180
gttgttgcag ccattagtac atctcccttc ttgccacctt tctctcccca aatctcaaca
                                                                     240
aaaccagttg tttttaatct taacactacc catcaccctc ctacactcac tgaaatgtct
                                                                     300
                                                                     360
tcagcccta acctctagaa gagctgagga catcatggaa ggaaggtaag tctttctctg
aaagagattg tagacctggg atataatgga taaagtgatc cccaagatgc acttttgatg
                                                                     420
ttttaatttc tcagattttt tttgctagat acttactttg cattgctttg ttgttgtttt
                                                                     480
                                                                     537
gtgaaagaac agacttctaa ttttaaaaaca caaggtgaag aaatgttaaa aaaaaaa
<210> 12899
<211> 1617
<212> DNA
<213> Homo sapiens
<400> 12899
gcacattctc tgcccttggc ctgacgtatt ctcccttatc agcacatacc acaagtcttt
                                                                      60
caagacctat aaaatcagta ccattttctc tgggaagtca tcctgattcc cctctttctg
                                                                     120
cgtatggtga agaatgcttt atggaatact ctgcattcct ttctctcaag acttagattt
                                                                     180
                                                                     240
accattacca tatggaaatt tctaggctgt ttccaatgcc taggtggtgc tcagaagtgt
                                                                     300
tagtggttta gtagaatcct aattgtggag aaagacagcc aaatttggga ggtttttagc
atagagtaac cctggcattc agggatgttt gctgtgcaag atgggtgtgg taccagagga
                                                                     360
                                                                     420
gctgttcctg gaggaactga atctcagtgg cttgaagtgg tcagttccgg cattggtatg
                                                                     480
ttccccttct gtattgcaca gagctgggaa accactgaag tcatgtgctc tgcagaactt
gttcaactgg tttcctctcc acagacccct aattcagatt tccaccctta ttctttctg
                                                                     540
catatgctct tagtctgggc ttgttttaag gtttaccaca gtagagttct cagtatagtt
                                                                     600
```

```
660
atttatttgt cttgctgagt gtagagtggg tagggccaag tatgtactcc ctttgaaaag
                                                                    720
tgttatcagt aagacaagat agacaggtat tatgtaaatc atggagtgtc agactccatt
                                                                    780
agcaggttta tttctgtgga tctaaccatt tcacccccac actcatgtgt acatacacat
                                                                     840
atacataget atcattattt agageetaet actagttget gggtgaggtg teagageeee
                                                                    900
ggcattggaa agtagtcaac tcacaggttg gtaggaagaa tttactgaca gcagtatagg
                                                                    960
tttgaaaaag gaaagtttta ttagaaagaa ggaactctgc agaagaatgc ctcagcaaga
gagaactgag ctcgcggtgg atttttccct tagggtattt atggaactta aagcaggagc
                                                                    1020
ttaagggtag tttggaccat attagccaat aggtcatgat aaatgattac atttttagac
                                                                    1080
gtaatgtcag caagggttgc acagggagtt tcggcatggc attccagaga tgtatagaaa
                                                                    1140
                                                                    1200
gtctagttgc ttacaaattt taggttgaaa agagagctgg aaccaggtgc cgattttaga
taacagggaa gttaattact tctaaattcc tcagataaga agttttgcct ctgaatggtc
                                                                    1260
                                                                    1320
tccttagtgg actccaggtg atcactagta tttggtatgt atcatctcat ttaatcctta
caacaacctt atgaagtttg gtgtgttgct aatcctgctt tatatatggg aaatggaagc
                                                                    1380
tcagagaagt tagcgggtaa catgtcattc ttggtttttc ttatgtcctt ccctcttatc
                                                                    1440
tcagggagga agtggggtat attcctttct gtagctggct gccgcctctg ctcttcagaa
                                                                    1500
ccttgctttc ttttgttctt attcctgtat ctttagcccc tccttcacgt gttctttct
                                                                    1560
                                                                    1617
tgcagactat aaaaatatgc tttttccaca atcatttaaa aaaaataaaa agacact
<210> 12900
<211> 1616
<212> DNA
<213> Homo sapiens
<400> 12900
                                                                      60
gcacattctc tgcccttggc ctgacgtatt ctcccttatc agcacatacc acaagtcttt
                                                                     120
caagacctat aaaatcagta ccattttctc tgggaagtca tcctgattcc cctctttctg
                                                                     180
cgtatggtga agaatgcttt atggaatact ctgcattcct ttctctcaag acttagattt
                                                                     240
accattacca tatggaaatt tctaggctgt ttccaatgcc taggtggtgc tcagaagtgt
                                                                     300
tagtggttta gtagaatcct aattgtggag aaagacagcc aaatttggga ggtttttagc
                                                                     360
atagagtaac cctggcattc agggatgttt gctgtgcaag atgggtgtgg taccagagga
gctgttcctg gaggaactga atctcagtgg cttgaagtgg tcagttccgg cattggtatg
                                                                     420
                                                                     480
ttccccttct gtattgcaca gagctgggaa accactgaag tcatgtgctc tgcagaactt
gttcaactgg tttcctctcc acagacccct aattcagatt tccaccctta ttctttctg
                                                                     540
                                                                     600
catatgctct tagtctgggc ttgttttaag gtttaccaca gtagagttct cagtatagtt
                                                                     660
atttatttgt cttgctgagt gtagagtggg tagggccaag tatgtactcc ctttgaaaag
tgttatcagt aagacaagat agacaggtat tatgtaaatc atggagtgtc agactccatt
                                                                     720
                                                                     780
agcaggttta tttctgtgga tctaaccatt tcacccccac actcatgtgt acatacacat
                                                                     840
atacataget atcattattt agageetaet actagttget gggtgaggtg teagageece
                                                                     900
ggcattggaa agtagtcaac tcacaggttg gtaggaagaa tttactgaca gcagtatagg
                                                                     960
tttgaaaaag gaaagtttta ttagaaagaa ggaactctgc agaagaatgc ctcagcaaga
                                                                    1020
gagaactgag ctcgcggtgg atttttcctt agggtattta tggaacttaa agcaggagct
taagggtagt ttggaccata ttagccaata ggtcatgata aatgattaca tttttagacg
                                                                    1080
taatgtcagc aagggttgca cagggagttt cggcatggca ttccagagat gtatagaaag
                                                                    1140
tctagttgct tacaaatttt aggttgaaaa gagagctgga accaggtgcc gattttagat
                                                                    1200
aacagggaag ttaattactt ctaaattcct cagataagaa gttttgcctc tgaatggtct
                                                                    1260
ccttagtgga ctccaggtga tcactagtat ttggtatgta tcatctcatt taatccttac
                                                                    1320
                                                                    1380
aacaacctta tgaagtttgg tgtgttgcta atcctgcttt atatatggga aatggaagct
cagagaagtt agcgggtaac atgtcattct tggtttttct tatgtccttc cctcttatct
                                                                    1440
cagggaggaa gtggggtata ttcctttctg tagctggctg ccgcctctgc tcttcagaac
                                                                    1500
1560
gcagactata aaaatatgct ttttccacaa tcatttaaaa aaaataaaaa gacact
                                                                    1616
<210> 12901
<211> 1616
<212> DNA
<213> Homo sapiens
<400> 12901
gcacattctc tgcccttggc ctgacgtatt ctcccttatc agcacatacc acaagtcttt
                                                                      60
```

<213> Homo sapiens

```
120
caagacctat aaaatcagta ccattttctc tgggaagtca tcctgattcc cctctttctg
cgtatggtga agaatgcttt atggaatact ctgcattcct ttctctcaag acttagattt
                                                                      180
accattacca tatggaaatt tctaggctgt ttccaatgcc taggtggtgc tcagaagtgt
                                                                      240
tagtggttta gtagaatcct aattgtggag aaagacagcc aaatttggga ggtttttagc
                                                                      300
atagagtaac cctggcattc agggatgttt gctgtgcaag atgggtgtgg taccagagga
                                                                      360
                                                                      420
gctgttcctg gaggaactga atctcagtgg cttgaagtgg tcagttccgg cattggtatg
ttccccttct gtattgcaca gagctgggaa accactgaag tcatgtgctc tgcagaactt
                                                                      480
gttcaactgg tttcctctcc acagacccct aattcagatt tccaccctta ttctttctg
                                                                      540
catatgctct tagtctgggc ttgttttaag gtttaccaca gtagagttct cagtatagtt
                                                                      600
atttatttgt cttgctgagt gtagagtggg tagggccaag tatgtactcc ctttgaaaag
                                                                      660
                                                                      720
tgttatcagt aagacaagat agacaggtat tatgtaaatc atggagtgtc agactccatt
agcaggttta tttctgtgga tctaaccatt tcacccccac actcatgtgt acatacacat
                                                                      780
                                                                      840
atacatagct atcattattt agagcctact actagttgct gggtgaggtg tcagagcccc
                                                                      900
ggcattggaa agtagtcaac tcacaggttg gtaggaagaa tttactgaca gcagtatagg
                                                                      960
tttgaaaaag gaaagtttta ttagaaagaa ggaactctgc agaagaatgc ctcagcaaga
                                                                     1020
qaqaactgag ctcgcggtgg atttttcctt agggtattta tggaacttaa agcaggagct
                                                                     1080
taagggtagt ttggaccata ttagccaata ggtcatgata aatgattaca tttttagacg
                                                                     1140
taatgtcagc aagggttgca cagggagttt cggcatggca ttccagagat gtatagaaag
                                                                     1200
tctagttgct tacaaatttt aggttgaaaa gagagctgga accaggtgcc gattttagat
aacagggaag ttaattactt ctaaattcct cagataagaa gttttgcctc tgaatggtct
                                                                     1260
ccttagtgga ctccaggtga tcactagtat ttggtatgta tcatctcatt taatccttac
                                                                     1320
aacaacctta tgaagtttgg tgtgttgcta atcctgcttt atatatggga aatggaagct
                                                                     1380
cagagaagtt agcgggtaac atgtcattct tggtttttct tatgtccttc cctcttatct
                                                                     1440
cagggaggaa gtggggtata ttcctttctg tagctggctg ccgcctctgc tcttcagaac
                                                                     1500
cttgctttct tttgttctta ttcctgtatc tttagcccct ccttcacgtg ttctttctt
                                                                     1560
gcagactata aaaatatgct ttttccacaa tcatttaaaa aaaataaaaa gacact
                                                                     1616
<210> 12902
<211> 344
<212> DNA
<213> Homo sapiens
<400> 12902
agacagggtc tcactctgtt acccaggctg gaatgcagtg gtgtgatctg ggctcactgc
                                                                       60
agccacaaca cccccaggct cagatgatcc tccttgtctc agcctcccaa agtgctggga
                                                                      120
ttataggcgt gagccacctc acctggcagt actgtgttct taatgtatat catagttaac
                                                                      180
ccccactccc ttattttctt actaaataat aggtgtgaaa attaaatttt tgacatatat
                                                                      240
ggctctagca gaggattgct tttacagaga aataggtgcc tgtcttctac tttgtagagg
                                                                      300
                                                                      344
actcttacct gttgttttct tctcaagagc tgctcacagg ttag
<210> 12903
<211> 344
<212> DNA
<213> Homo sapiens
<400> 12903
agacagggtc tcactctgtt acccaggctg gaatgcagtg gtgtgatctg ggctcactgc
                                                                       60
agccacaaca cccccaggct cagatgatcc tccttgtctc agcctcccaa agtgctggga
                                                                      120
ttataggcgt gagccacctc acctggcagt actgtgttct taatgtatat catagttaac
                                                                      180
ccccactccc ttattttctt actaaataat aggtgtgaaa attaaatttt tgacatatat
                                                                      240
ggctctagca gaggattgct tttacagaga aataggtgcc tgtcttctac tttgtagagg
                                                                      300
                                                                      344
actcttacct gttgttttct tctcaagagc tgctcacagg ttag
<210> 12904
<211> 1108
<212> DNA
```

```
<400> 12904
agttccacca acagtgtaaa agtgttccta tttctccaca tcctctccag cacctgttgt
                                                                   60
ttcctqactt tttaatgagc gacattctaa ctggtgtgag atggcatctc attgtggttt
                                                                  120
tgatttgcat ttctctgatg accagtgatg atgagcattt tttcatgtgt ctgttggctg
                                                                  180
cataaatgtc ttcttttgag aagtgtctgt tcatatcctt tgcccacttt ttgatagggt
                                                                  240
                                                                  300
tgtttgtttt tttcttgtaa atttatttga gttctttgta ggttctggat attagccctt
tgtcagatga gcagattgca aaaattttct cccattctgt aggttgcctg ttcactgtga
                                                                  360
                                                                  420
tggtagtttc ttttgctgtg cagaagctct agtttaatta gatcccattt ctcaattttg
                                                                  480
gcttttgttg ccgttgcttt tggtgtttta gacatgaagt ccttgcccat gcctatgtcc
tgaatggtat ttcctagttc aaccattgtg gaagacagtg tggcaattcc tcaaggatct
                                                                  540
                                                                  600
agaactagaa ataccatttg acccagccat cccattactg ggtatgtacc caaaggatta
taaatcatgc tgctataaag acacatgcgc acgtatgttt actgcggcac tattcatgat
                                                                  660
                                                                  720
agcaaacact tggaaccaac ccaaatgtcc atcagtgata gactggatta agaaaatgtg
                                                                  780
gcacatatac accatggaat actatgaagc cataaaaaag gatgagttca tgtcctttgt
                                                                  840
agggacatgg atgaagctgg aaactatcat tctcagcaaa ctatcacaag gacagaaaac
                                                                  900
caaacaccgc atgttctcac tcataggtgg gaattgaaca atgaaaacac atggacacag
                                                                  960
1020
gacagcatta ggagatatac ctaatgctaa atgatgagtt aatgggtgca gcacaccaac
                                                                 1080
atggcacgtg tatacatatg taacaaacct gcatgttgtg cacatgtacc ctagaactta
                                                                 1108
aagtataata aaaaaaaaaa aaaagaaa
<210> 12905
<211> 19459
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (961)
<223> n equals a,t,g, or c
<400> 12905
ggacagcgtg gagaagggcg agctggccga ccgcgtgggg aaggtgggtc cccggaggct
                                                                   60
tggctggcgg tggggctggg tcacagcttt gaaatctgat tcttcgtctt ccccgtctcc
                                                                  120
gtgtccaggt gtccgtgttc ttcaggacca gcccaaagca caagctcaaa atcatcaagg
                                                                  180
ttcgctgggc aaggcaggca caggtgcgct gctggggccg ggccagagac actgtggctc
                                                                  240
gaggagctca tgcgtctgtc gggtgacagt gcagggcccg accgtggctt ccttctctag
                                                                  300
                                                                  360
caggggcgcg tgggcagctc ccttggagag gacgaggctc tgaagttgcc agcaacactt
                                                                  420
gcgctgacag ccccttggcc agaacacagt cacgggccca ggtttagctg caggggatgc
                                                                  480
                                                                  540
tgggaagtgt catctgtagc tgggcggaca cgagccccac caaacctggg gataatttta
aagaagatgg gagaactggg ggacctttgc tacatacagt gaaaactggg agctgtaatt
                                                                  600
660
                                                                  720
tgtaggtacg gagtettget etgteaceta ggetgeagtg eagtggeaca ateteggett
                                                                  780
acttcaacct ctgcctccca gggtcaagcg attctcctgc ctcagtctcc ccaagtagct
gggattgcgg tgtgcaccag cacacccggc taatgtttgt aattttagta gaggcagggt
                                                                  840
ttcgccatgt tggccaggct ggtctcaaac tcctgacctc aggtgatccg cctatcttcg
                                                                  900
cctcccaaag tgctgggtgc tttttggctt tattcctgtt actcaactcc gtgcctccgt
                                                                  960
ntcctcatct gtaaaatggg gaactattaa tgccgtcagc tgattcacag ggttggtaga
                                                                  1020
                                                                  1080
aaattaaaca aagccaggcc catgaatctc ttggcacaca gcaggagccc aataaagagc
tgatgtgatt tttctgactc tgaataccaa aaaaaggtag aaaatgtgct tggttttctc
                                                                  1140
gcctgtgctc tgaaagtttg ctcttgagct cttttagtag acgggctttc ttctttcatg
                                                                  1200
ttatttttag ctctacagag taaatcccta tgtgagttac tcctcaaaga aggtagtaat
                                                                  1260
acttaccagg taccccatgg tttccagggc cgcactgttg attactgttt attactggga
                                                                  1320
ctggataacc tttatgagcc tttactgacc gtgctgggca ccgtcacatc cgtcatctca
                                                                  1380
gtttgggcct cacaacagcc ctgggaagaa gaaactgttg ctcccacttt gcagataggg
                                                                  1440
aaactgaggt caagagggtc aagggctcgc ccaattccca cagctaatgt gggtgaagct
                                                                  1500
                                                                  1560
gggattcgaa ttccgggtgc cctccagaca gaggtgtctg tggctggcca cagggtgtgc
atggccgggc actgggaggt ggtcgtcagg ctgcaggcct tcattgcctg ctctttccaa
                                                                  1620
aggctctgca ggagtcaggg gcgatcgtgg ccatgactgg ggatggggtg aacgacgcag
                                                                  1680
```

1740 tggccctgaa gtctgcagac attgggatcg ccatggggca gacagggacg gacgtcagca aagaggccgc caacatgatc ctggtggatg atgacttctc agccatcatg taagctgccc 1800 1860 ttctggttgt ttttcagttg caaaaatgcc tggggtcacc agcttctccc tggaacctgc tactgtggag atagaggggg ggggggtctc gcggagtccc cagggagagc tgaatctcgg 1920 1980 ggctcgtcag tgtggcaggt gcccccaacc ccaagcacca acagcctctc atagcagggt catggggtcc atgatgcctg gggctagtca catgctgccc ccaggggaat gttacggata 2040 tgaagcagag atgggatttg ctgcctgtgg gtgcatttca tgtggtactg ggaatgcccg 2100 cctggctcag gctggtgggc agcagctgaa tatgtaagga aaacctgtgg ccaaatacgt 2160 gctcacactt gagtgtgggg tgagaaagga ttaaaatgaa catcttccgt ttgaggcctg 2220 cgtgttgata catatatctc aggcattgca aagagacctg ggcagaaaca cccccatcgc 2280 tgaccacgga ggtgctctct aggttctggg gcttgcacaa aactatttgt tctgtttcac 2340 ttttctgtat tttttctta atacatttac cttcctaatt ttaattagtt ctgagactct 2400 2460 cctcataagc taatcgcagt ggttagttgg gggtgaggga aaacttttta agcctgatac aaaaaatcca aataaacaaa tattgaggct aggtggatcg tgcactttac aaaggtgtct 2520 2580 ccacagttga ttcgccatag gaagccttaa cacacttaga aaaaaaaaa aagtcataga 2640 tagctcttat tattttgaaa tacgtcccat caatacctaa tttattgaga gtttttagca 2700 tgaagggttg ttgaattttg tcaaaggctt tttctgcatc tattgagata atcatgtggt 2760 ttttgtcttt ggctctgttt atatgctgga ttacatttat tgatttgcgt atattgaacc 2820 agccttgcat cccagggatg aagcccactt gatcatggtg gataagcttt ttgatgtgct 2880 gctggattcg gtttgccagt attttattga ggatttttgc atcaatgttc atcaaggata ttggtctaaa attctctttt ttggttgtgt ctctgcccgg ctttggtatc agaatgatgc 2940 tggcctcata aaatgagtta gggaggattc cctctttttc tattgattgg aatagtttca 3000 gaaggaatgg taccagttcc tccttgtacc tctggtagaa ttcggctgtg aatccatctg 3060 gtcctggact ttttggttgg taaactattg attattgtca caatttcaga gcctgttatt 3120 ggtctattca gagattcaac ttcttcctgg tttagtcttg ggagagtgta tgtgtccaca 3180 3240 gccaatatca tactgaatgg gcaaaaactg gaagcattcc ctttgaaaac tggcacaaga cagggatgcc ctctctcacc actcctattc aacatagtgt tggaagttct ggccagggca 3300 atcaggcagg agaaggaaat aaagggtatt caattaggaa aagaggaagt caaattgtcc 3360 3420 ctgtttgcag acgacatgat tgtttatcta gaaaacccca tggtctcagc ccaaaatctc cttaagctga taagcaactt cagcaaagtc tcaggataca aaatcaatgt acaaaaatca 3480 3540 caagcattct tatacaccaa caacagacaa acagagagcc aaatcatgag tgaactccca ttcacaattg cttcaaagag aataaaatac ctaggaatcc aacttacaag ggatgtgaag 3600 gacctcttca aggagaacta caaaccactg ctcaaggaaa taaaagagga cacaaacaaa 3660 tggaagaaca ttccatgctc atgggtagga agaatcaata tcgtgaaaat ggccatactg 3720 cccaaggtaa tttacagatt caatgccatc cccatcaagc taccaatgac tttcttcaca 3780 gaattggaaa aaactacttt aaagttcata tggaagcaaa aaagagcccg catcgccaag 3840 tcaatcctaa gccaaaagaa caaagccgga ggcatcacac tacctgactt caaactatac 3900 tacaaggcta cagtaaccaa aacagcatgg tactggtacc aaaacagaga tatagatcaa 3960 tggaacagaa cagagccctc agaaataatg ccgcatatct acaactatct gatctttgac 4020 aaacctgaga aaaacaagca atggggaaag gattccctat ttaataaatg gtgctgggaa 4080 aactggctag ccatatgtag aaagctgaaa ctggatccct tccttacacc ttatacaaaa 4140 4200 atcaattcaa gatggattaa agatttaaac gttagaccta aaaccataaa aaccctagaa 4260 gaaaacctag acattaccat tcaggacata ggcgtgggca aggacttcat gtccaaaaca ccaaaagcaa tggcaacaaa agccaaaatt gacaaatggg atctaattaa actaaagagc 4320 ttctgcacag caaaagaaac taccatcaga gtgaacaggc aacctacaac atgggagaaa 4380 attttcgcaa cctactcatc tgacaaaggg ctaatatcca gaatctacaa tgaactcaaa 4440 caaatttaca agaaaaaaac aaacaacccc atcaaaaagt gggcgaagga catgaacaga 4500 cacttctcaa aagaagacat ttatgcagcc aaaaaacaca tgaaaaaatg ctcatcatca 4560 ctggccatca gagaaatgca aatcaaaacc actatgagat atcatctcac accagttaga 4620 atggcaatca ttaaaaagtc aggaaacaac aggtgctgga gaggatgtgg agaaatagga 4680 acacttttac actgttggtg ggactgtaaa ctagttcaac cattgtggaa gtcagtgtgg 4740 4800 cgattcctca gggatctaga actagaaata ccatttgacc cagccatccc attactgggt atatacccaa aggactataa atcatgctgc tataaagaca catgcacacg tatgtttatt 4860 4920 gcggcactat tcacaatagc aaagacttgg aaccaaccca aatgtccaac aatgatagac 4980 tggattaaga aaatgtggca catatacacc atggaatact atatgcagcc ataaaaaatg 5040 atgagttcat gtcctttgta gggacatgga tgaaattgga aaccatcatt ctcagtaaac tatcgcaaga acaaaaaacc aaacaccaca tattctcact cataggtggg aattgaacaa 5100 5160 tgagatcaca tggacacagg aaggggaata tcacactctg gggactgtgg tggggtcggg 5220 ggagggatag catcgggaga tatacctaat gctagatgac acgttagtgg gtgcagcgca ccagcatggc agatgtatac atatgtaact aacctgcaca atgtgcacat gtaccctaaa 5280 5340

```
5400
taattctttt cagaatattt tagtaaaatc tggcggtggg ggcaccacgg tcggtaattg
tttttctaca ttagtgaccc caggtcaagg tttaaaaggg cttccgcgaa gagccttcta
                                                                     5460
                                                                     5520
aagacagaag caggcgatgt ccttcagcgg ccccatcccg ccctccttac cgtcctccgg
                                                                     5580
acctcatttt taggccgaac tggttttgct gcgtctctct ctcctctttg gtaaatcgcg
                                                                     5640
gagatgcacg gcgcacttcg ggagtctggg cagggatggg gccccctggc tcggccggag
                                                                     5700
agtaattcat ggtctgattg gaggcatcag gtgtaccctt ggcacagaag ggcgaacatg
                                                                     5760
gctcaaggat cagttcccag tggccgaggg gcacctgtta gaacaccaac gtctcctaca
aatgtgtccc caagaatgcc agcaagggga accagcaggg gcccaagtat aacatcaatc
                                                                     5820
                                                                     5880
tgggcgagtc accactgccc cttgcagcaa ccgatgcact ggtccagccc tcccgcaggc
ccgctccgtg agtaaatggc tctcttctct tgcaggaatg cagtggagga aggcaagggt
                                                                     5940
atttttaca acatcaaaaa ctttgtccga ttccagctga gcacgtaagt agaggccagc
                                                                     6000
                                                                     6060
attccgagtg tcattaagca ccacgcctgg cgtgcggccg ctgactggct gcgtgtgccc
                                                                     6120
cqcaqqaqca tctccgcct gagtctcatc actctgtcca ccgtgttcaa cctgcccagc
                                                                     6180
cccctcaacg ccatgcagat cctatggatc aacatcatca tggatgggcc accggcgcag
aggtgaggca gggccggctg ggagccctgt gtctctttac ccacctgcgg ggcttcctcc
                                                                     6240
aggggctgct ggctgtgccc caaggctata aggatgaaca aatacagcca ctttccatca
                                                                     6300
                                                                     6360
ggagttccca gaaaactgaa gtgtgttgca ctggagtgag actgggagta gaaggcagag
gagaaagtac ctgggccggc agagctgggt gaggatggaa ctttccgctc cctctgcctg
                                                                     6420
gatgctctct ctgggcaacc tgcatggctc attctcatgc ttcattccag tcaccagtca
                                                                     6480
                                                                     6540
ctgccttcag gaagtcttcc ctgattgcac tcccactcaa tcccctcacc ctgctgtatt
                                                                     6600
tttccctaga gaggaagata cacacagaca cacttttcct tatggatctg attgtgatct
gtctcccctt tagaacatca gtttcatgga ggcggagttt gtgtttcatc cctgatgtct
                                                                     6660
                                                                     6720
agagataaag ggcttgccac tcagtaggtg ctcaggagtc cacctgctcc gcgacttaat
                                                                     6780
atccccttca acaagctggc caagtggtgt gggggaagga atgcgctttg gagtcagggg
                                                                     6840
acccatctgg ccacgtgtgc gtaaccgtat gagcacagag ccagtgcttc cgctggagct
                                                                     6900
cagtgctgct gttatcacca gtgacagctg ccaagggaaa gagagtcctc atttgtgtcc
                                                                     6960
ccaaagccaa gtgtgagggt tacctctcct gccagccctc cctgggagca gaagtgggac
caggaagctg gcctcagctg tgtctgagcg gcagggcctc acccggccac tcccaccata
                                                                     7020
                                                                     7080
ccgcctgctg cgggtctagc ctcaaccctg ctgtgtggag ttggctggag gctggtctct
ctcagctgat gaggggctct gcggagggcg gagcctggag cctgtttctc caggcgcaac
                                                                     7140
                                                                     7200
gttggggggg gtcccctcgg ggtgatggag atcatctggg tgtatggaac tgtgtgtggt
tggccttact gggtggtctt ccttcactgt ctgcgggaca gatggagggg cacagctgcc
                                                                     7260
catggaccca ggctctgggg cttctggaag gtgccgagga gggcaggtgc gatgcctggg
                                                                     7320
ggcgttcagc aaatgcctgg ccctgccccc tgtgccaact tggcctggga ggctcaggca
                                                                     7380
cagctgtttc aagggtcctt tatttcattc ctggttcatt tcaaagtgtc tgtgtcttgt
                                                                     7440
tcggagcagc ttgggggtag agcccgttga caaagacgcc ttcaggcagc caccacggag
                                                                     7500
tgtgcgggac accatcctca gcagagccct catcctgaag atcctcatgt ccgcggccat
                                                                     7560
catcatcagc gggaccctct ttatcttctg gaaggaggtg agcgagggtc accccggcct
                                                                     7620
gttctccaag ccctggtgca gtgcagacgc tggggactgc agtccctgcc ctcctgccac
                                                                     7680
agctcacatc tgggagaggc aaacatgtac acacaccgga caatgtgatg ccatcagagg
                                                                     7740
                                                                     7800
cgtggggtgc atgaggcaaa gggactgggt gacccctgaa agaagggagg tcgccaggtg
tgtgcctggg aactacagag gccagcgggg tggagatgac tttgccgaga cgggagttga
                                                                     7860
aatgtacatg aggacaggct gcccctgtt cccttgtcac caggaaacaa tttgaaatct
                                                                     7920
                                                                     7980
gctaaatatc ctcctgtgtt acactctaga ggtgattgtt tgctttggat ctaggcctgg
gtcacctttt catggcctgc aggttcaggg agctctgtgc caggacgggc catgatctag
                                                                     8040
gtgggaaatg aggcaggtga cccatgtgac cacaccacag attgcccatg tgcaggaagc
                                                                     8100
gggaggggac ctggccgggt accetgcctc cattttccct ccagetctcc ctctactact
                                                                     8160
gacggccatc cttcagcctt ccttgtagga aatgaccttc actctgggtt taactggagt
                                                                     8220
                                                                     8280
ggcatcacct cccagggaga cagttacttc ctggaggaag tggtgtttcc tccacccata
ggtgccctgc ccccatcctc atggtggcag caaatcagca tgtgctgggg agaccctggg
                                                                     8340
gtagcagcca ctgacctcac acctggagga agctgtgtga ccgattcatg agcttgtaag
                                                                     8400
tggctcccag ccgtgcccca ggagcagtga ggcaggcctg tgccctttgg ttcaggatgg
                                                                     8460
aggttgtctc ttcccgccta acctctcacc tttgtgctca ccttccagat gcctgaagac
                                                                     8520
                                                                      8580
agagcaagca ctccccgcac cacgacgatg acgttcactt gttttgtgtt tttcgatctc
ttcaacgcct tgacctgccg ctctcaggtg agacccgggc tgaccctcct cgctgcagag
                                                                      8640
                                                                      8700
ctgctgtgtg ttctcgacag cagcgccccg accctgcccg cagcattgag cggctctggc
tcagcgtggg cagtcagagc tcccctgcct gtacctgggg tgtggacagc acacaatccc
                                                                      8760
                                                                      8820
ccgtgtgacc ttctccctgc agaccaagct gatatttgag atcggctttc tcaggaacca
                                                                      8880
catgttcctc tactccgtcc tggggtccat cctggggcag ctggcggtca tttacatccc
cccgctgcag agggtcttcc agacggagaa cctgggagcg cttggtgagt ggtggggacg
                                                                      8940
ggaacgacag gtgacctcga ccagggccat gggggggggc agctgccagg tggggagctg
                                                                      9000
```

9060 cagcccagga ggggtcagtg cgggaaagca gagctcacca ggggccggct ctgtcttcag 9120 qqcccttctg tcctcacagg aagggactct aacgtgggtg atgtgacgga tgcacagaaa 9180 cccctaggaa gaggcctgtc actcaagagt agtagggtct ggggcccaag gggcaccggc 9240 atcccaggcg tccggctgga ggctcagagc acgtgcaggg aggaaggagg gagcaaggcc 9300 tggactcagc ctgggaggta ccccagctgg ggagcctgga cttgaccctg gggccagtaa 9360 tgtgacttag agatctggtc acctgaaggc agggagctgg gctgtcttcc agttttggct 9420 gaaagggaca tgattcagtc accgtggttt tccaagggca cacaccctgg tgtggagccc aggggactcc ccgacattgt cagccaagcg agtgtggcac ctttctctga agctgcggtt 9480 atggcaggca tggggcaagg ggagggagcc agggacaagt catcgacccc acccttttcc 9540 9600 ccagggtgct gagagccacc cccaacccgg aatagaggac gagggaggcc agtgaggcag ccccacggc ccaccgcctc cccgccgcag ggcccagagt gggtcatggc tcagatctgg 9660 agggtcatgg gattatgcat cagacctgag gctgcagtga caacggtcct atgacctcca 9720 9780 ggcaagactg ggatggtcaa ctctgccttg tcctccaaaa agcagtgtca gtgtgggtca 9840 ccagtgaatg ccctgtagga acagacaaga ggacccccca aaacactctg ctcactggct 9900 gtttcccacc gccgggaagg aagtcggctt cccacgcctg aaggggttgt gcttgggcag cccgtacatc cgacctcatc aacagggagc cagggatgtt cctcaaaaca gcatgtgaca 9960 10020 ggagcagagg gagacgctgg gaattcatcc cagggaacat gtcgggtgca ctggacaggg agccagactg tcactcagga cattgcaagc agcagggcac tgggacagct gctgtcggga 10080 aagaaactca ttccccttcc agcccgagtc cataacatgc tcccagctgc ctgccagacc 10140 10200 caccetgtge tetggagetg cetggtgttt geetggaace acaggeagge cettetggaa 10260 ctgcagcatt ttggatcctg ggttaggaag atctccctgc cttcagggga atgaaaaggg ctggtcctcc gcacctctca ctttatcagg aggactggca gggaaggcgc ttcctgccgg 10320 10380 cacaacagag ctgcagcccg tcctgaatct tttctgtttt ctcccttggc agatttgctg 10440 tttttaactg gattggcctc atccgtcttc attttgtcag agctcctcaa actatgtgaa 10500 aaatactgtt gcagccccaa gagagtccag atgcaccctg aagatgtgta gtggaccgca ctccgcggca ccttccctaa tcatctcgat ctggttgtga ctgtggcccc tgccgtgtct 10560 10620 cctcgtcagg ggagactttt aggaggccgc agccttccat caccggatca gtttttcctc ttaggaaagc tgcaggaacc tcgtgggctc cagggaccca ggcccacatc catccagcgt 10680 tcccgctggc tgtgggacag acagggaggg gcctgtacag aaacaccaca ctgtttatta 10740 aatcacaatg atttttatta accatgtcta actacgtatc tgtgccacag cttgcagtga 10800 ggcaggccac tcgtggcaga tacaaggggc tcctgagagg cagtgggtag gatggtcaca 10860 ctctgcccat tgccctcctg gaggccccat ttcctcatca taaaatgagg gacttttaaa 10920 taaagtgcta tgccggggga taattatttt gatgtgttta cctagggttt ttcatacaag 10980 gggccaggtt ggaaaccaac agccatgtgt taatggccac gtggggtgag cagcaatcca 11040 tcatgaatgg cctacaggaa ggcctcggct tttggacata aagagtaggg ctgggcatgg 11100 tggctcacgc ctgtaatccc agcactttgc aaggccaagg caggcagatc acttgaggcc 11160 11220 aaaaacagtt gccaggcgtg atgatgcaca cctgttaatc ccagctactc gggaggctga 11280 11340 aacaaagcaa gagtctctct cagaaagtgg cccttctctc cggaaccagg aactgtagta 11400 tctcctgctg cctgcagaca agcttgattt cccactgccc caaagacttc caaaaaccca 11460 11520 totgototto cacgitgacag atggcagagg agagaggict ccatgcigtt citcigcotg aagccacgcc agaaccacca aagggaacca gaaggggaac tccgtcccca tctctcagga 11580 aataaggcca gagctagaac cccccagtta ctagtcaggc ctcactagag aaacagaacc 11640 aacaggatgg agggagatgc agagatttgt tttaaggaac tggctcatag gatgttgggg 11700 gctggcaagt ctaacatctt gagggcaggc cagcatcctg gagacccagg gaagagctgg 11760 ggatgcaggc tggaggcaga atttcctcct cctcaaggga gttcagcctt ttcctcttat 11820 agtcctcatc tgatcggatg aggcccactg acgttatgaa ggataaactg ttctacttca 11880 agtctacggg cttacatgtt agttacacag cgccatctag accagtgttt gcttgacgaa 11940 aatcaacttg gcctggccaa gttgtcagat aaaagtaccc gttgcaccca gccacggtag 12000 ctatgaaaag ggctaccagg ggtggtaaca gctgggtcag acgaagataa ggaaggtcag 12060 agtggacccc tgccagggtt ccaggcagag tccaaagtcc tccatagtag gattcacagc 12120 ctgggaagaa gcccctctct ggctacaacc tgtgacacca gggccacagg aggagatgca 12180 gcgatgggcc attcctagtg agacacagac acagggctgg ctggagaaga aaccttttga 12240 gctgtggggc tgtcttccta gaagctgcca acccctggaa ccactaagag gtcaaggctg 12300 aagtgtgcca cttccacagt ctgctaagga gtgcctcccc ctgagtcagg gacaattctt 12360 gctctacttt tcaggatcct tgggcacact gctggcccga gacatttact tcccatttaa 12420 aattaagtaa tcaaaatacc agggtcgatt gatatttgca ataacaacaa aaattactct 12480 12540 gaactcttgc ttatgtaaac tttagggata aaactgtagt aagacacaaa atgctaacaa taaaatataa attagactac attaaaacta agaccttctt ttcattaagg acacagtaga 12600 cttgaacacc accattaagc aacttagctt gatttacact tgtagaacac cccattcacg 12660

```
agtagcatag aaacagtcac caaaataaag agcagaaatc aaacgaaaaa gcaaaaatag
aggaaaatca atcaaaacct agtttttcga agagatcaat aaaactatca gtcttgcaat
aagcttatca aagaaaaaag ggaagagaaa tgaccaatgt caggaatgaa aaagtgtatc
                                                               12900
accacaaacc cttcaagata ttccaacaat aataataaat aatactatgt acatctttat
                                                               12960
gtacctaaat tcaatcaatt ggatgaaata aaccaattgc ttgaaaacca aaaactacca
                                                               13020
aaactcactg aagattaaat agataagctg aagttgaaac ccttccaaaa aaggcagttt
ctgaagccag atgatttcac tggtgaattt tactaaactt gtaaagaaat ggcaattcga
                                                               13080
tacactgaat tccaaaaata aaaggggacc gagcacttct cattttataa ggtcaacaat
                                                                13140
cactctgata ccaaaactag agaaaaatac tagagaccaa catcccttat gaatatatgc
                                                                13200
acgaaaatcc tcaacaaaat atgaggaaat cagatctagc caggtaggaa gaatataaga
caccaggacg aagtggggtt aattgaggaa tggaattcaa gcattccaaa gttcaacatt
                                                                13320
                                                                13380
caaaaccaat ataactgaaa agttcaacat tcaaaaacca atataactca ctatattaat
                                                                13440
agtctgaaga aggaaaaaca catggttata tcaattaatg cagaaaaggc atttgataaa
attcaatctc catttgtaat aaaaactctc aaactaggaa ttgaaggaaa cttcttcaac
                                                                13560
ctgataaaga acatctacaa aaaacctata gctaacatca tacttaatga tgaaaaactg
aattetttee ceacaggata aggteeaagg gtgaecagee teaceactee tatteageae
                                                                13680
agtattagaa gtcctagcca gtgtaatatg gcaagaaaag ttaaaaggca ttagcaaaga
gcctggaaag gagaaaatca cagataacat aattgtccac acagaaaatc ccaacaaatc
                                                                13740
                                                                13800
tttttaaaaa agaaaaaccc tcctagaatc aacgagttta gtaaagccac aagatacaag
                                                                13860
gttaacacac aaaaagcagt cgtatttcta tatattagca atgaacaact ggaaactgaa
atttaaaatt gaatactatt tgtctgtctc aaaaaaaagt atcaattctc ccgagattgt
tgtattaggt ttaacacaat taccatcaaa atcccaggat ttttttgttt ttgtttttt
                                                                13980
                                                                14040
ttaagacaca gataaacttg ttctaacaag cttggtatga tattgttatc agcagaccta
                                                                14100
tttcaatttc actggttttt acatagtatc tgatgttagg caaacctgag tttaagggca
                                                                14160
cagtgctcca ggtggctggc caagtctgcc caggccttct gatactgact gcaggtccaa
gagtttccca caaccacctt caggttggat gattcgttga tgaggcacac agagctcact
                                                                14220
                                                                14280
gacacctctc atgctcacag ccatgtctat taccaggaaa agatacagat tagaacagcc
ccagggctgc aactgcagag actggtcacc ctctccctct gagctcaaca gtttctgagt
                                                                14340
                                                                14400
gttctatgaa attgtatgac acacatcaat tcaggtaacc actgctacaa tgaggaggca
                                                                14460
aaacttccat cgcccctgaa aaactcctcc ttacttttta tagtaacacc ctcctaatcc
                                                                14520
cagcaacctc taatcccttc ttcatcacca taatgttgtt ccttcaatac tgttacataa
                                                                14580
atggaatcat ggtatagaac cttttaagac tggccagctg ccccaggatg gaccccaggt
                                                                14640
gtgatggcaa gcacctgtaa tcccagctac tcgggaggct gaggcaggct aatgtcttga
                                                                14700
acctaggagg cagaggttgc agtcagctga gatcacacca ctgcactcca gcctgggtga
                                                                14760
14820
14880
14940
aaaagattta agaggtaaaa acagaaacca cagtagaaga aaatgatttt taatactcag
                                                                15000
agtagagaca gactgcctaa acaaacggca aatccaaaga cccttaagca gaaatgctgg
                                                                15060
gaaatatgac agaaactgta aaatttatgg gcagaaaaac gccacaaacg aagtcaaata
                                                                15120
aactgtagaa aacattgacc atacatggga aatgctactt cattcataaa aagcactgtt
                                                                15180
ggccgggtgt ggtggcttgc acctgtaatc ccagcacttt cggaggctga ggcaggagga
                                                                15240
tcccttgagt tcaggagttc aagaccagct tgggcaacat attgagacct catttctatt
                                                                15300
ttatttttta aaagcactgt tacaaatcga taagaaaaag accgacaccc tagaaaacca
                                                                15360
agaaaaagat atgatacaga aagcttttga aaaatgaggc tgttcactgt cacttggtag
                                                                15420
aaaaatttaa acagtacagt tttgagcaag acaccatatg ggagcccagc ccacaagaga
                                                                15480
ctgcacacca gcctggggct cagcagcacc agggcagagg cacagcaaag tgcgggctgc
                                                                15540
cactgccaag gtgcaagtgg ggtgcgtgtt cccactcact ggcatgggct gctgccactg
                                                                15660
aaagcagcct caccctcccc agtggcaagg tcacagcaca actgctgtta cctcccaccc
aagcattcca ccggaggcct ggggactgcc ccctccccag ctaccacaga aaatgcctgc
                                                                15720
gtatgccatg gagggacctc agacaagccc gcccagcctg gctttgccgc acatgctgat
atggcttggc tgtgacccca cccaaatctc atcttgtact tcccataatc tccacgtgtc
                                                                15840
atgggaggga gccgggtggg ggaggtaatt gaatcatggg ggtagttacc tccatgctgt
                                                                15900
tttcatgata gtgagttctg acacgatctg atggttttat aaggggcttt gctcctgctt
                                                                15960
tgctctgcac ttctccttcc taccatcatg tgaagaagga catgtttgct tccccttccg
                                                                16020
ccatgattgt aagtttcctg aggcctccct agccatgctg aactgtgagc caattaaacg
                                                                16080
                                                                16140
tctttccttt agaaattatc caggctcaga tatgtcttta ttagcagcat atgagaacgg
actaatacac acaccctatg ctggaacaca cagtctagat gactggggac ggcccagccg
                                                                16200
aggccaccac tattggtacc tgagcactcc tctcagactg ctgagcgtgg gttcacccac
                                                                16260
cctgccacta cctgcactag ttggcatcta catgcacgtg ccacctgtgg gcctggagac
                                                                16320
```

```
16380
tggcccaccc agctcatcac agccaccacc actaccaggt acactactag ggacccagag
ggttaccctg ccattgccac tgccactacc atctcctatg ccacactggc tgcccagggg
cccaagagcc cagccacctg gcccactgct gccatttagc atccaagcaa gctatcctca
                                                                  16500
acaaaacact agcaaactga atccaacagc acatcaaaaa aaaaaaagaa aaaaagaaaa
                                                                  16560
aaagaaaaca ggccgggtgt ggtagctcac gcctgtaatc ccagcacttt gggaggtcaa
                                                                  16620
ggcgggtgga tcacttgaag cctggagttc gagaccagcc tggccaacat ggtgaaaccc
                                                                   16680
                                                                   16740
tgtctctagt aaaaatacaa atattagcca ggtgtggggg tgggtgcctg taatccccac
                                                                   16800
tacttgggag gctgaggcag gagaattgct tgaacatagc aggcagaggt tgcagtgagt
cgacattctg ccactgcact ccagcctgag cgacaaagca atattccatc tcaaaaagca
aaacaaaaca aaaataatac accacaataa agtgagattt atcgcactta tgcaaggatg
gttcaacata cagaaatcaa taaatgtgat acatcacatt aatagaatga aggacaaaaa
                                                                   17040
ccatatgatc agatataagc aattagtaaa ctgatgcaga aaaagcattt gataaaacac
                                                                   17100
gacattcctt cctgaaaaaa aactgtcaac aaaccagaca gaagggacat acctcaacat
                                                                   17160
aatcaagacc atatatgaca aacccacagc tgacatcatc ctgaatgggg aaaagctgaa
                                                                   17220
agcettteet etaagaactg gaacaagaca aggatgeeca ettttaceae teetatgeaa
                                                                   17280
cataatattg gaagtcctgg ccagagcaat caggcaagag aaagaaataa aaagcatccc
aactggcaaa gaggaactca aattgtccct ttttgctgat gatatgatcc tgtatctaga
                                                                   17340
                                                                   17400
aagactccat caaaaaacta ttagatctca taaattcagt aaagttacag gatacaaaat
caacatacag aaatcagtag tgtttctaca tacagataat ggaatatctg agaaataatt
                                                                   17460
17520
aaccaagaag taaaagatct atacaaggaa aactacaaag cactaatgaa agacattgaa
                                                                   17580
gaggacacaa acaaatggaa aacatcccat gctcatggat cagaactaat accattaaaa
                                                                   17640
tgaccatact gcccaaagcc atctagagat tcaatgccat ccctatcaaa atatgtcatt
                                                                   17700
                                                                   17760
tttcacaaaa ttaaaaacaa atcctaaagt tcatatggaa ccaaaagaga gcccaagtag
cctaagcaat cctgagcaaa aagaacaagg ttgcaggcag cataccacct cacttcaaaa
                                                                   17820
tctattacag ggctatagta accaaaatag catggtattg ctttaaaaaa aatttaaaaa
                                                                   17880
gagacacatg gaccaatgga acagaataga gaaaccagaa ataagtctac atatctatag
                                                                   17940
ccaacttatg ttcaacaaag ttgccaaaaa catacactgg ggtaaggaca gtgtcttcaa
                                                                   18000
taaatggtgc tgggataatt ggatatccat atgcagaaga atgaaaccct acctctcacc
                                                                   18060
atctacaaaa accagatgaa gacgaattaa agatttaaat gtaagaccca aaactataaa
                                                                   18120
actactagaa gaaaacaggg aaaacaattc acaaacccaa caatttaaaa ataaacaatc
                                                                   18180
ccattaaaaa gtagacaaag gacatgaata gacatttctc aaaagaagac atataatggc
                                                                   18240
caacagctat atgaaaaaaa aaagagctca acatcactaa ctatcatcca atccagcaat
                                                                   18300
                                                                   18360
cccactactg agtatttatt caaaggaaaa gaatcagtgt gtccaagaga tatctgcatg
ccgacattta ctgcagcact attcgcaata gcaaagatgt agacacgacc taaacatcca
                                                                   18420
ccaatggatg aacggataaa gaaaacgcgg tatataccct ctcatgccag tcagcatggc
                                                                   18480
aattattaaa atgtcaagaa acaatagatg ctgatgagat cgtagaaaaa caggaacgcg
                                                                   18540
gctgggcgca gtggctcacg cctgtaatcc cagcattttg ggaggctgag gtggacggat
                                                                   18600
cacaaggtca ggagatcgag accatcctgg ctaacacggt gaaactctgt ccctactaaa
                                                                   18660
aatacaaaaa aattagccgg gcggggtggc gggcgccctg tagtcccagc tactcgggag
                                                                   18720
gctgaggcag gagaatggcg tgaaccgggg aggtggagct tgcagtgagc ggaggtcacg
                                                                   18780
ccactgcact ccaggcctgg ggcaacagag tgaggactcc gtctcaagaa aaaaaaaaa
                                                                   18840
aaaaaagaaa aaacaggaac gctcttccac tgttggtggt aatgtaaatt agttcaacca
                                                                   18900
ttgtggaaga cagtgtggcg attcctcaaa gatctagaat cagaaatacc actggacgca
                                                                   18960
                                                                   19020
gcaatcccat tactaggtac atacccaaag gaatataaat cgtatgttac aaagatacat
gcacacatat gttcacggca gcgctattca caataacaaa gacatggtat caacccaaat
                                                                   19080
gcccattagt gatagactgg attttaaaaa tgtggcacat atataccatg gaatactaag
                                                                   19140
tagccatcaa aaagaatgag atcatgtcct ttgcaggaac atggatggag ctgggagcca
                                                                   19200
ttaccctcag caaactggca caggaagaga aaaccaaaca ctgcatgttc tcacttataa
                                                                   19260
gtggaagctg aacagtaaga acacatggat gcagggaggg gaaaaacaca gactggggcc
                                                                   19320
tgttggtggt agggctgcgg gagggagagg attaggaaaa atagctaacg catgctgggc
                                                                   19380
ttaataccta ggtgatgggt tgataggttc agcaaaccac catggcacac atttacctat
                                                                   19440
                                                                   19459
gtaacaaatc tgcacatcc
```

<220>

<210> 12906

<211> 6989

<212> DNA

<213> Homo sapiens

```
<221> SITE
<222> (4281)
<223> n equals a,t,g, or c
<400> 12906
gcggccgctg actggctgcg tgtgccccgc aggagcatct ccgccctgag tctcatcact
                                                                      60
                                                                     120
ctgtccaccg tgttcaacct gcccagcccc ctcaacgcca tgcagatcct atggatcaac
                                                                     180
atcatcatgg atgggccacc ggcgcagagg tgaggcaggg ccggctggga gccctgtgtc
                                                                     240
tctttaccca cctgcggggc ttcctccagg ggctgctggc tgtgccccaa ggctataggg
                                                                     300
atgaacaaat acagccactt tccatcagga gttcccagaa aactgaagtg tgttgcactg
                                                                     360
cagtgagact gggagtagaa ggcagaggag aaagtacctg ggccggcaga gctgggtgag
                                                                     420
gatggaactt tctgctccct ctgcctggat gctctctctg ggcaacctgc atggctcatt
ctcatgcttc attccagtca ccagtcactg ccttcaggaa gtcttccctg attgcactcc
                                                                     480
cactcaatcc cctcaccctg ctgtattttt ccctagagag gaagatacac acagacacac
                                                                     540
ttttccttat ggatctgatt gtgatctgtc tcccctttag aacatcagtt tcatggaggc
                                                                     600
ggagtttgtg tttcatccct gatgtctaga gataaagggc ttgccactca gtaggtgctc
                                                                     660
                                                                     720
aggagtccac ccgctccgcc acttaatatc cccttcaaca agctggccaa gtggtgtggg
ggaaggaatg cgctttggag tcaggggacc catctggcca cgtgtgcgta accgtatgag
                                                                     780
cacagagcca gtgcttccgc tggagctcag tgctgctgtt atcaccagtg atagctgcca
                                                                     840
agggaaagag agtcctcatt tgtgtcccca aagccaagtg tgagggttac ctctcctgcc
                                                                     900
agccctccct gggagcagaa gtgggaccag gaagctggcc tcagctgtgt ctgagcggca
                                                                     960
gggcctcacc cggccactcc caccataccg cctgctgcgg gtctagcctc aaccctgctg
                                                                    1020
tgtggagttg gctggaggct ggtctctctc agctgatgag gggctctgcg gagggcggag
                                                                    1080
                                                                    1140
cctggagcct gtttctccag gcgcaacgtt ggggggggtc ccctcggggt gatggagatc
atctgggtgt atggaactgt gtgtggttgg ccttacgggg tggtcttcct tcactgtctg
                                                                    1200
cgggacagat ggaggggcac agctgcccat ggacccaggc tctgggggctt ctggaaggtg
                                                                    1260
ccgaggaggg caggtgcgat gcctgggggc gttcagcaaa tgcctggccc tgcccctgt
                                                                    1320
                                                                    1380
gccaacttgg cctgggaggc tcaggcacag ctgtttcaag ggtcctttat ttcattcctg
                                                                    1440
gttcatttca aagtgtctgt gtcttgttcg gagcagcttg ggggtagagc ccgttgacaa
                                                                    1500
agacgccttc aggcagccac cacggagtgt gcgggacacc atcctcagca gagccctcat
                                                                    1560
cctgaagatc ctcatgtccg cggccatcat catcagcggg accctcttta tcttctggaa
ggaggtgagc gagggtcacc ccggcctgtt ctccaagccc tggtgcggtg cagacgctgg
                                                                    1620
ggactgcagt ccctgccctc ctgccacagc tcacatctgg agaggcaaac atgtatcaca
                                                                    1680
                                                                    1740
caccggacaa tgtgatgcca tcagaggcgt ggggtgcatg aggcaaaggg actggtaccc
                                                                    1800
ttgaaagaag ggaggtcgcc cgtgtgtgcc tggaactaca gagccacggg gtggagatga
                                                                    1860
ctttgccgag acgggagttg aaatgtacat gaggacaggc tgccccctgt tcccttgtca
                                                                    1920
ccaggaaaca atttgaaatc tgctaaatat cctcctgtgt tacactctag aggtgattgt
ttgctttgga tctaggcctg ggtcaccttt tcatggcctg caggttcagg gagctctatg
                                                                    1980
                                                                    2040
2100
gattgcccat gtgcaggaag cgggagggga ccctggccgg gtaccctgcc tccattttcc
                                                                    2160
ctccagctct ccctctacta ctgacggcca tccttcagcc ttccttgtag gaaatgacct
                                                                    2220
tcactctggg tttaactgga gtggcatcac ctcccaggga gacagttact tcctggagga
                                                                    2280
agtggtgttt cctccaccca taggtgccct gcccccatcc tcatggtggc agcaaatcag
catgtgctgg ggagaccctg gggtagcagc cactgacctc acacctggag gaagctgtgt
                                                                    2340
                                                                    2400
gaccgattca tgagcttgta agtggctccc agccatgccc caggagcagt gaggcaggcc
tgtgcccttt ggttcaggat ggaggttgtc tcttcccgcc taacctctca cctttgtgct
                                                                    2460
                                                                    2520
caccttccag atgcctgaag acagagcaag cactccccgc accagcgacg atgacgttca
cttgttttgt gtttttcgat ctcttcaacg ccttgacctg ccgctctcag gtgagacccg
                                                                    2580
ggctgaccct cctcgctgca gagctgctgt gtgttctcga cagcagcgtc cccgaccctg
                                                                    2640
                                                                    2700
gcccgcagca ttgagcggct ctggcgtcag cgtgggcagt cagagctccc ctgcctgtac
                                                                    2760
ctggggtgtg gacagcacac aatccccgtg tgaccttctc cctgcagacc aagctgatat
                                                                    2820
ttgagatcgg ctttctcagg aaccacatgt tcctctactc cgtcctgggg tccatcctgg
                                                                    2880
ggcagctggc ggtcatttac atccccccgc tgcagagggt cttccagacg gagaacctgg
gagcgcttgg tgagtggtgg ggacgggaac gacaggtgac ctcgaccagg gccatggggg
                                                                    2940
gcggcagctg ccaggtgggg agctgcagcc caggaggggt cagtgcggga aagcagagct
                                                                    3000
caccaggggc cggctctgtc ttcagggccc ttctgtcctc acaggaaggg actctaacgt
                                                                    3060
gggtgatgtg acggatgcac agaaacccct aggaagaggc ctgtcactca agagtagtag
                                                                    3120
                                                                    3180
ggtctggggc ccaaggggca ccggcatccc aggcgtcggg ctggaggctc agagcacgtg
cagggaggaa ggagggagca aggcctgtac tcagcctggg aggtacccca gctggggagc
                                                                    3240
                                                                    3300
ctggacttga ccctggggcc agtaatgtga cttagagatc tggtcacctg aaggcaggga
gctggctgtc ttccagtttt ggctgaaagg gacatgattc agtcaccgtg gttttccaag
                                                                    3360
```

ggcacacgcc ctggtgtgga gcccagggga ctccccgaca ttgtcagcca agcgagtgtg 3420 3480 qcacctttct ctgaagctgc ggttatggca ggcatggggc aaggggaggg agccagggac 3540 aagtcatcga ccccacctt ttccccagtg tgctgagagc caaccccaac ccggaataga 3600 ggacgaggga ggccagtgag gcagccccca tgggcccacc gcctccccgc cggcagggcc 3660 cagagtgggt catggctcag atctggaggg tcatgggatt atgcatcaga cctgaggctg 3720 cagtgacaac ggtcctatga cctccaggca agactgggat ggtcaactct gccttgtcct 3780 ccaaaaagca gtgtcagtgt gggtcaccag tgaatgccct gtaggaacag acaagaggac cccccaaaac actctgctca ctggctgttt ccacccgccg ggaaggaagt cggcttccca 3840 3900 cgcctgaagg ggttgtgctt gggcagcccg tacatcagga atcatcaaca gggagccagg 3960 gatggttcct caaaacagca tgtgacagga gcagagggag acgctgggaa ttcatcccag ggaacatgtc gctgggaatt catcccaggg aacatgtcgg ggtgcactgg acagggagcc 4020 cagactggtc actcaggaca tttgcaagca gcagggcact gggacagctg ctgtagggaa 4080 aggaaactca ttccccttcc agcccgagtc cataacatgc tcccagctgc ctgccagacc 4140 caccetgtge tetggagetg cetggtgttt geetggaace acaggeagge cettetggaa 4200 ctgcagcatt ttggattctg ggttaggaag atctccctgc cttaggggaa tgaaaagggc 4260 tgtcctcgca cctctcactt natcaggagg actggcaggg aaggcgcttc tgccggcgca 4320 cagagetgea geoegteetg aatetttetg ttteteeett ggeagatttg etgttttaa 4380 4440 ctggattggc ctcatccgtc ttcattttgt cagagctcct caaactatgt gaaaaatact gttgcagccc caagagagtc cagatgcacc ctgaagatgt gtagtggacc gcactccgcg 4500 gcaccttccc taatcatctc gatctggttg tgactgtggc ccctgccgtg tctcctcgtc 4560 aggggagact tttaggaggc cgcagccttc catcaccgga tcagtttttc ctcttaggaa 4620 agctgcagga acctegtggg ctccagggca cccaggccca catccatcca gtcgttcccg 4680 ctggctgtgg gacagacagg gaggggcctg tacagaaaca ccacactgtt tattaaatca 4740 caatgatttt tattaaccat gtctaactac gtatctgtgc cacagcttgc agtgaggcag 4800 4860 gccactcgtg gcagatacaa ggggctcctg agaggcagtg ggtaggatgg tcacactctg 4920 cccattgccc tcctggaggc cccatttcct catcataaaa tgagggactt ttaaataaag 4980 tgctatgccg ggggataatt attttgatgt gtttacctag ggtttttaat acaaggggcc 5040 aggttggaaa cccacagcca tgtgttaatg gccacgtggg gtgagcagca atccatcatg 5100 aatggcctac aggaaggcct cggcttttgg acataaagag tagggctggg catggtggct 5160 cacgcctgta atcccagcac tttgcaaggc caaggcaggc agatcacttg aggccagcct ggccaacaca gcaaaaccct gtctgtctct actaaaagtt taaaaaaaaa aaaaaaaaca 5220 gttgccaggc gtgatgatgc acacctgtta atcccagcta ctcgggaggc tgaggcagga 5280 gaatggcttg agtccaggag gtggagattg taccactgca ctgcagcatg ggcaacaaag 5340 5400 caagagtctc tctcagaaag tggcccttct ctccggaacc aggaactgta gtatctcctg ctgcctgcag acaagcttga tttcccactg ccccaaaagac ttccaaaaac cgatctgctc 5460 ttccacgtga cagatggcag aggagagag tctccatgct gttcttctgc ctgaagccac 5520 5580 gccagaacca ccaaagggaa ccagaagggg aactccgtcc ccatctctca ggaaataagg ccagagctag aaccccccat ttactagtca ggcctcacta gagaaacaga accaacagga 5640 5700 tggagggaga tgcagagatt tgttttaagg aactggctca taggatgttg ggggctggca 5760 agtctaacat cttgagggca ggccagcatc ctggagaccc agggaagagc tggggatgca ggctggaggc agaatttcct cctcctcaag ggagttcagc cttttcctct tatagtcctc 5820 5880 aactgatcgg atgaggccca ctcacgttat gaaggataaa ctgtttgttt tacttcaagt 5940 ctacgggctt acatgttagt tacacagcgc catctagacc agtgtttgtt tgacgaaaat caacttggcc tggccaagtt gtcagataaa agtacccgtt gcacccagcc acggtagtat 6000 gaaaagggta gcaggggtgg taacagctgg gtcagacgaa gataaggaag gtcagagtgg 6060 acccctgcca gggttccagg cagagtccaa agtcctccat agtaggattc acagcctggg 6120 aagaagcccc tctctggcta caacctgtga caccagggcc acaggaggag atgcagcgat 6180 6240 gggccattcc tagtgagaca cagacacagg gctggctgga gaagaaacct tttgagctgt ggggctgtct tcctagaagc tgccaacccc tggaaccact aagaggtcaa ggctgaagtg 6300 tgccacttcc acagtctgct aaggagtgcc tccccctgag tcagggacaa ttcttgctct 6360 acttttcagg atccttgggc acactgctgg cccgagacat ttacttccca tttaaaatta 6420 agtaatcaaa ataccagggt cgattactct gaactcttgc ttatgtaaac tttagggata 6480 aaactgtagt aagacacaaa atgctaacaa taaaatataa attagactac attaaaacta 6540 6600 agaccttctt ttcattaagg acacagtaga cttgaacacc accattaagc aacttagctt 6660 gattacactt gtagaacacc ccattcacga gtagcataga aacagtcacc aaaataaaga gcagaaatca aacgaaaaag caaaaataga ggaaaatcaa tcaaaaccta gtttttcgaa 6720 gagatcaata aaactatcag tcttgcaata agcttatcaa agaaaaaagg gaagagaaat 6780 gaccaatgtc aggaatgaaa aagtatatca ccacaaaccc ttcaagatat tccaacaata 6840 6900 ataataaata atactatgta catctttatg tacctaaatt caatcaattg gatgaaataa accaattgct tgaaaaccaa aaactaccaa aactcactga agattaaata gatagctgaa 6960 6989 gttgaaaccc ttccaaaaaa ggcagtttc

```
<210> 12907
<211> 801
<212> DNA
<213> Homo sapiens
<400> 12907
                                                                     60
ttatgttcag tgaaaaaggc agacacagaa agacaaattc tgcatgttct cactgatgta
tgtcagctaa aaaaaaaaa aagtggatct catggaggta gagaaaagaa cgatagatac
                                                                    120
                                                                    180
240
gcagggagcc gaaggcccgt gggacgtgac caactcagca ttccactgga ggctgtgtga
                                                                    300
tcaaacagca aactgtttat catgaatgca ggatgtgggc aaactcatga ctgctcctgc
                                                                    360
caacaggttt gctggaggcg atcactccct gtcaccaagg ttatctactg cgacatctag
                                                                    420
agcctqttqt ttqaqqaatg cagtcttgca agcctactcc ggactgagca gctgacccct
                                                                    480
tettecacce ceetteteac tatgtetttt geataacaaa taeggaggge tgtgtaaagt
                                                                    540
tcagggccct tgtccactag aggcaaggtg ccccctgacc ccttcttcca aacatactct
                                                                    600
tttgtctctt gtctttatt cccatgttcg ccccctttgt tcggtccccc taggtccatg
                                                                    660
aggattactt agttgcaccc caaacagcaa cagaaccggg tgccccacaa gtgggtacaa
                                                                    720
acatacagtt agaagagata agttctcatg ttctatagca gcactgggtg accagagtcg
                                                                    780
gcaacaatgc actgtgtatt tcacagtaga cataagggaa gacttgcaat gcttggaatg
                                                                    801
tggaaaggat actcaagttg a
<210> 12908
<211> 290
<212> DNA
<213> Homo sapiens
<400> 12908
                                                                     60
ccaacacaac attcaaattt aaagaggaaa cagtatggga aattcaggca aaggatacag
aaaattcatt atattaactt accacatgaa aggacacaaa acctcagtga ttccaaagag
                                                                    120
tagatctaat atagatgact tcttggtcgg gcatggtggc tcagacctgt aatcccagaa
                                                                    180
ctttgggagg ccgaggcggt tggatcactt gaggtaagga gtttgagacc agcctgggca
                                                                    240
acatagcgaa accccatctc tactaaaaat acaaaaatta gctgggcatg
                                                                    290
<210> 12909
<211> 2836
<212> DNA
<213> Homo sapiens
<400> 12909
                                                                     60
gggccggcgt cgggcggggc cggcggggtc ttcagggtac cgggctggtt acagcagctc
                                                                     120
tacccctcac gacgcagaca tggcagcgca gaaggaccag cagaaagatg ccgaggcgga
agggctgagc ggcacgtgag cgagctggct ctaggccctc ggaccagaga cccgggagtc
                                                                     180
cgggcccccg gcccctcct ccctcctccc tcgagagcct ggagtcccag ccccgagccg
                                                                     240
cagaagtgtt ggccccggtc tcctctaatg ggaccctgga gtctgggccc ctagtcccct
                                                                     300
ccctgcctgc tgtacaggaa tctggggtcc cgggagggag tccaggcacc cttagtcccc
                                                                     360
ttcttttgcg ggggtctggg gctccatccc ggtccaccac tgacccggcc ccacccccg
                                                                     420
caggaccctg ctgccgaagc tgattccctc cggtgcaggc cgggagtggc tggagcggcg
                                                                     480
ccgcgcgacc atccggccct ggagcacctt cgtggaccag cagcgcttct cacggccccg
                                                                     540
caacctggga gagctgtgcc agcgcctcgt acgcaacgtg gagtactacc agagcaacta
                                                                     600
tgtgttcgtg ttcctgggcc tcatcctgta ctgtgtgtga gtgcctcccg ggccccgcac
                                                                     660
                                                                     720
ccgcactage cccgaccgge tggaccccte ctctcgccge tcaggccccg cccttcaccg
                                                                     780
cccggtccct cctctcaccg cccagggccc tcttctcacc gcccaggccc cgcccccaag
gattggctct gctagactac cttgtcacca aagggccagg tcccctaccc caccatcacc
                                                                     840
                                                                     900
ctggccagga tgcagtgtga ctaaatgtca cctggccctc cctggtctcc aggatgtagc
                                                                     960
ttgccgcccg ccggtggaga aggccagggc cgtcgggctg gcccagcccc agctgtctaa
ccgctgcctc cctgcactcc tcctccaggg tgacgtcccc tatgttgctg gtggctctgg
                                                                    1020
ctgtcttttt cggcgcctgt tacattctct atctgcgcac cttggagtcc aagcttgtgc
                                                                    1080
```

```
1140
tctttggtga gaaaccccct gcccagatga atccttggtc cctcaaatct tggtcttttg
gaatgcagac agacctcaga ccccaaatcc aagtccttca aaacccaagt ccgcccaagc
                                                                     1200
                                                                     1260
ctagatgtac actagatccc ccaaacctga tcccttaaaa tctcagacac aaccgatcct
tccatcgagt ctcagcccc tcaaattgct attcctcaaa cccaggatcc acctggctgc
                                                                     1320
tgtgccttaa acctactcct tttcaaacca catgactcct cccctctctc tcctcccctt
                                                                     1380
                                                                     1440
gccgctctct gcggccaaca tcagctgcag gtgcccacac tggacaccag gtggccacct
                                                                     1500
tacactggcc tagatctgtt cccgtttctt ttcctgcttt ctggggtgtg accagaaaga
acttggaact tagagaggga agccgaggag tatgtttcat gtggttccca gactagtagt
accaaggacc actgggaaaa caaaatgcca ggggaaattc cccccagggg aaaatcaagg
                                                                     1620
                                                                     1680
tttggagtgg ggtcagggag ttgggattgg acagttaggt agacctgaag gccaggctct
tcaggggcct gcaagttatg tgcttgatgg gctggggtgg agggagtgcc tgaagcacag
                                                                     1740
                                                                     1800
gcacgacttg gcttcagctg atcaccgtca ccagagcatg tagaccccat ccctgagact
tctatgagaa gcctgaagtt ggtattttta tgtgaaatcg ttcactttgc cagccacaaa
                                                                     1860
tcacatcctt gcaaaacagc tcaaaaaaca catccacagg tcagatttgg cccttgggcc
                                                                     1920
accagtttga gaccctggtc tgcgcgaggg ttgcagcagg agagccctag tctagggagc
                                                                     1980
                                                                     2040
aggaagccgg gatcccagga acttcctgga ggatgtgggg cagagggcag agggtggggc
tgaggcaggc gaggacggtg tgctgtgttc tggagggcag tggggacagc aggggaacag
                                                                     2100
ggtgacccca ggacctggag ggccttggca tgaggagttt ggattcgatc ccgagaacct
                                                                     2160
ggagcttgta cggattgttg gggggcagca ggggttactc tgggagaggg catggagagt
                                                                     2220
cggaacagca ccccaatgcc atctgccccc aggccgagag gtgagcccag cgcatcagta
                                                                     2280
tgctctggct ggaggcatct ccttcccctt cttctggctg gctggtgcgg gctcggccgt
                                                                     2340
                                                                     2400
cttctgggtg ctgggtgagt acagggtctg agcagctggg gtggatggtg ggagccaggt
gcaggagtgt ggccctgagc tgccggcttt cctgcaggag ccaccctggt ggtcatcggc
                                                                     2460
                                                                     2520
tcccacgctg ccttccacca gattgaggct gtggacgggg aggagctgca gatggaaccc
gtgtgaggtg tcttctggga cctgccggcc tcccgggcca gctgccccac ccctgcccat
                                                                     2580
gcctgtcctg cacggctctg ctgctcgggc ccacagcgcc gtcccatcac aagcccgggg
                                                                     2640
agggatcccg cctttgaaaa taaagctgtt atgggtgtca ttcaggaaat attcccccag
                                                                     2700
catcttctgt gggtctctat gggtggagct gggaatactg cacagagcag ggttggggtg
                                                                     2760
gaacctgggg tgtgggcaag acgatgacaa ggtaaacagg taaaatatta tgggatgccc
                                                                     2820
                                                                     2836
aatggtggtg agtgtt
<210> 12910
<211> 167
<212> DNA
<213> Homo sapiens
<400> 12910
aaaaatacaa aaattagctg ggcgtggtgg cgggcgcctg taatcccagc tactctggag
                                                                       60
gctgaggcag gagaatcgct tgaacccagg aggcagaggt tgcagtgagc cgagattgcg
                                                                      120
ccattgcact ccagcctggg caacaagagc gagactccat ttcaaaa
                                                                      167
<210> 12911
<211> 591
<212> DNA
<213> Homo sapiens
<400> 12911
                                                                       60
cactcacagc tetgatttae teteateaaa gggtatggag eeaagteage caaaaggaaa
                                                                      120
ggtgcatgga gtgaactcgg gaaaccaggc atgcacttcc agaggccaca cctaattcct
ccagcagtgg atcatggtga cgtgtgaaat gtcagccagg gacactctga tcctagcctc
                                                                      180
                                                                      240
agcgcccttg gtttcatggg ggcggccaca agagcacctt ctctccaaca tataccaaaa
                                                                      300
tgccaggctc ccagaaagaa ggcctgtgcc tgcacgaaca gcctagatag atgcagcaag
                                                                      360
ccactctagg cctgcacgaa cagcctagat agatgcagcg agccactcta tcaggaagtg
                                                                      420
ataagacccc cccccaaca cccaagttcc cagccaagga ccaactgtgc acccaggcct
gtctaaggac agcagtctgt tgtggagcct gccaggttaa ctcttttctg cacagagaaa
                                                                      480
                                                                      540
gttcgggaat gagttgtggg ttaaagaggg tgaccagaaa aggcctccct gacgtgacat
                                                                      591
tcaccaaaga cctaaattga gagagggagc agcccagatc ctttggagga a
```

```
<210> 12912
<211> 2110
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (847)
<223> n equals a,t,g, or c
<400> 12912
cgtgcccagc ctagtcatga ctcaactggg atctggcaca ctgcactggg tgttttgttc
                                                                       60
tctgatgtgc acattgatga atgcatattg gtacaaggga aatgaatctg ttttcagcca
                                                                      120
tttaaaaaaat tgtgttgtaa agcaaacaaa aatagcttga acatttaaaa attactgttt
                                                                      180
aatattgttt gactgatttt ctaagaatta tgtgaacaat gatgagtcca gggcagcagc
                                                                      240
catcacaaat atgacagtcc agcaaggccc atggaggtcc ctttggaagg gacttgcaca
                                                                      300
gctgattttc tttttccagt gttgttttta cgggtgaaac gtggcttttg aaatacttta
                                                                      360
gttgtttggc ttagagctcc cactttcccc ctaacatagt gcctgtctgt tttttaaaac
                                                                      420
                                                                      480
attttaccct tcggcactat tttctgctat tcccattaat attatgtaac ataaaccact
tgctactgat ttgggcatat tacagactac aattactagt tgctttgaat gcattggcac
                                                                      540
tcttaattat tgcaaaggag aattgaaaag tagtcttgtg gtcctagtta atttagcttt
                                                                      600
gggcaaacta agtggctttt cttctgtcct cttctcaaaa ggccttttaa gcagcagaga
                                                                      660
                                                                      720
ctgggctaaa tactggaact gaattccact tttctgcctg ctcatttgct gccaaagacc
                                                                      780
acttggggct ccttgtctag aatgctctaa gacgaaattt ggccagacac agggttcctt
                                                                      840
gattgttctg ttcaactaat agagaaccta cattttgcct tcttaatatc gactttcttt
                                                                      900
tqtaccnaqq tttttctttc tttcttttt gccttaggag cttagctcaa agttcagcta
                                                                      960
acctttqaca ctactaqtqt catttagtaa cagtaatctt tgacactact agtgtcattt
aggagettag etcaaagtte agetaacett tgacaetget agtgegttea agaaagggta
                                                                     1020
                                                                     1080
gggaatgaag taccettaat geagggteag caaactttte etgtaaaagg eeagatagga
agtatttttg gctttttggg ctgtttgctt ttgctactac tactgtggga atgaccatgg
                                                                     1140
                                                                     1200
tcatggctgt gttccagcac aacttgattt accaagacaa gctgtgggct gtatttggtc
ctcaggctgt ggcttgctag cccctgctct aatggattgt gttggcggca atggcaagat
                                                                     1260
tcccttgctg agaacatgca gatgaataac cttatagctg ggatgcagag aggagaaagt
                                                                     1320
tctgtaggta ataagtgcac tgtattccct ctgagctact tcctgggcat agttacatgt
                                                                     1380
                                                                     1440
atggccagtg tgtgtacttg agccatcagg ctcagacact tgttgaatat acctctcatt
gcattagttt gtaattgtgc tagtgctggg tgctgagctc agctgcccgg atgacctttc
                                                                     1500
                                                                     1560
cagactgaag gacatactcc cctaacagct gggagtgctg ctggctggcc atttacttcc
agcccttatg aggagtttcc cctgctgaag agccctgcct gccccagatc ataccccctt
                                                                     1620
cctgcctgta acccttaccg gctccatatg gggtacaaag ggctggcctc ctcaccccaa
                                                                     1680
cttgggaaac cctctggggc catcccagct ccagagcccc ttgtggggtc agtgagacct
                                                                     1740
cattgtggcc acattacagc ccagtgcctc tccctgacaa gcctgtaccc agccggctca
                                                                     1800
gcccacagca ctgtcctatg aaccttcctg cacgccattc tccacctcag tatctgcttt
                                                                     1860
cggggaaccc aacctgcgac agtgcttctg tgtgttttca gtcctgcagg tttgaactct
                                                                     1920
gactttggag acttttccag ttatctcgtg gaatgacaga ttgtgcctgt atgatatcag
                                                                     1980
gcacaattaa tgcaaattag gcagacctat ttattctaga tgtgaatttg ctatttattt
                                                                     2040
taaatgttga ttttatgtgt tatgtgactc tgaacttatt gccaaataaa agtttgaatt
                                                                     2100
                                                                     2110
gtatcatctg
<210> 12913
<211> 696
<212> DNA
<213> Homo sapiens
<400> 12913
gcaagtccaa gatcaaggtg ccggcagatt tggtgtctgg tgaggcctgt ttcctggttc
                                                                        60
acagatggtg acttctacat ggtagatagg ttgagggagc tctctgaggc ctctattata
                                                                       120
agggcactaa tecettteag gatgeeeete eeeettaate aceteecaaa ggettacagg
                                                                       180
ctcacttacc accctcctag tgttatcacc ttgggggtaa agatttcaac acaggaattt
                                                                       240
tgggggtcac aaacattcag accatagcac ttaaccttta ttttaaaatg tcagccaggt
                                                                       300
```

360

gcagtggctc atgcttgtaa tcctagcact tagggaggcc aaggtgggag gattgcttga

```
gctcaggaat ttgagaccag cctgggtaac atagtgaaac cccatctcta caaaaaataa
                                                                     420
                                                                     480
accacattag ttgggtttgg tgatgggtgc ctatagcagc agctacttgg gaggctgagg
                                                                     540
ctggaggatc acttgagccc agaaggttga ggcttcagtg agccatgatt gagctactgc
                                                                     600
aatccagtct gggtgacaga gtgagaccct gtctcaaaaa aaaaaaaagt caattattta
                                                                     660
aaaactcatt agtcaaatat tttctaagat ccaaatttgt tttaagcaat tataattgtc
                                                                     696
ttcattqtqt cttctattgg aattgtagct gagatt
<210> 12914
<211> 3146
<212> DNA
<213> Homo sapiens
<400> 12914
cccctgctgc gtgagaggtg tcggcggctc cgggccggga tcgaggtggc ggggcgaggg
                                                                      60
aaggaggtgg ggcgcaggct gcattgcgct tctgtccggg gccctgggtc agaggggccg
                                                                     120
gcggacgagg cctcgggtcc gggcttgggg aggggggggt ctgcggggtc ggattgaggg
                                                                     180
ccgggaaccc gcggagtctt gcccctgggc acctgtgggg ccgagatccc gagccacctg
                                                                     240
                                                                     300
tccacacacc cccttccccc agtgccctgc gttgggtcca gctggcccca gacctaggcc
                                                                     360
tttcccaqcc tcgggcgatt atagtttatt tgaaaacgtt tgatttttgt gttaatgatt
                                                                     420
cttttactac cgccgtgcaa cagttgtgta aatgtggtcg tgttacgcca tcgtttttac
ttgctcctaa gaagggcctt accagctcct gcgattatct cacgcgatga ttcttggtag
                                                                     480
                                                                     540
ctcgtgaaaa aaatgcataa caagatactg gttctcaagg gaccaaaacc ccaccccac
                                                                     600
ctaaaggaaa tagcttgttt ttgtttttct tttttacagc aatatgctac gtgtggggag
ggggagggac gatggaggca gcctgtagcg atctcatcct cgagagaatc tgctaacaat
                                                                     660
                                                                     720
ttggggggta tctttccttc ctttttaatt aatacacaaa catatatacg tgtgttacat
aaggggtgtt tatttgcttt tttcacttaa tacgtggaag accttttctc tatcgtttga
                                                                     780
                                                                     840
acctaaagcc tagaaggcaa gaaagcaact cgttagagag ttgataaagt atcactgcag
                                                                     900
tggccagtga tttggataga aataagctga attcagggta agaactggtt tctataaaat
                                                                     960
atggtttact ctgcataata attggaggca gtgttttttc aaactgagtt ttttcagccg
                                                                    1020
gttcgtgaat ggtgaaatta atttagtcat gactagcatt taaaaaaaaa taagatcgca
                                                                    1080
taaaaaaatc agaatgcatt atatgtaatg agagtattgt tttgtgaaaa atattttaac
tgtgcgcgtg tgcattgtga aatttagtgg gtcgtgacta gcattaaaaa aagtaagatc
                                                                    1140
                                                                    1200
gcatagaaaa tatcagactg cattacatgt aatgagagta ttgttttgtg aaaaatcttt
taagtgtgcg tatgtgcctg tgcgtgtgtg ctcggttgta attaaaaatt tattggttcc
                                                                    1260
                                                                    1320
tgtgtgtcat gttaaataat cttgagagtc gctaatccaa ggtactgtca gcactcaaat
                                                                    1380
gagcaagatg caattaaact agacattagt tttatttttt ctttggaata gtggtgatgt
tgattgcagc aaataagagt cctaattatt tgttttcacc taatattaaa acaagtagta
                                                                    1440
                                                                    1500
ttcctaaaaa tacagagagg aagtgtctaa gtcgttaaga ggttaaagca taaactactc
                                                                    1560
aaattgacca gtgatcacat ctcagttacg ctggttattg gtgtgagacc tgcaacaaga
                                                                    1620
tacctctttt ctctcaacct cagttccctg atttgttaaa tgggaattaa tcatggcagc
                                                                    1680
taccttataa agctgtttgt tatttagatg agataatgca caggaagctg ttgacagagc
                                                                    1740
gcctggctca gattaagtac taagtattag ctattattat tttattaaga ctgaatagag
gtgtctagga taatgcttgt caccagagga aagccagcat agcgtggata atccagaaaa
                                                                    1800
ggggaaaatt gaaaattagt agtgttgtgt ggaggaactg acactgaatt agtgtggtct
                                                                    1860
                                                                    1920
ttttatgcat tcggccattg ttttgtcatt gctcctcaat tgtttcccta ctgctggacg
gaaaatttag attgtcttat tcagaaaacc aaatgccttt ctattgtctt tccttattat
                                                                    1980
                                                                    2040
tattattttt caaattaagt tgatgtctct tttgtcaggc agttgaaaaa tatgttttat
gaggattgtg ggttttgtta gttcttacca cactgccacg ccacactcag tttgagaaat
                                                                    2100
                                                                    2160
acacacacga caactccaga ctcatttcag aaatattttt atccatgttt acctctgcag
2220
                                                                    2280
aatgctgttt tatttgtatt ttaagacatt tctgcctaag tcatctgggt agctcagaaa
                                                                    2340
tctctgttca ctgcctggga taggtttatg caattttaaa tgttacataa atgaatgaaa
                                                                    2400
taagaaggtg aacatagtca ttttttaaaa atagcattat tatttttatg aaaaataaat
                                                                    2460
agaatgcttt ggattcataa aaaggctata tttgcaaagt acttaactgg gtatgacatt
ggggaaaaat gtttaacatt gatgataatt ctgctctcag atttgaaact gccttcagat
                                                                    2520
                                                                    2580
ttttgttctg ctttagagga acaaaaatgg aaactcgggt gaattacgat gttgtttgtg
aaaagacatg tctcgaaact ctagctaatc tgtccaaaaa aaaaaaaaa agcaacagtc
                                                                    2640
cccatactaa aaataccaat gaaacaaaaa agccccattt gatcttaaac atatatacat
                                                                    2700
ttagaagttt taagttaaat attaaggtta tgtgtgcatt taaaaaatta tcttactgat
                                                                    2760
tgactttaag aagttaaccc accaactact ggttcttgtc ttgacagggc ttttatctac
                                                                     2820
```

```
2880
                                                                  2940
tcctatttta tgatagcatt ttataatggt atatgaaggt gctcattata tgtggttcag
tgagagaggg tggctataga atagaatgta ctgtaccttc ccatttttgt aaaaatatgt
                                                                  3000
                                                                  3060
ttagaacaaa gacgaatacg atacatgtta atggtgggta gattatggct gatttttatg
                                                                  3120
ctctttattt ttataattgt actattataa atgctttact tttgtaataa aaattaataa
                                                                  3146
aagtcatttt ttaaagaaaa attaaa
<210> 12915
<211> 9880
<212> DNA
<213> Homo sapiens
<400> 12915
aggagagcca ggtcctcctg actcttacaa atccagttga gaacctcacc catgtgactc
                                                                    60
tcttcgagtg tgaggagggg gaccctgatg atatcaacag cactgctaag gtaggagcat
                                                                   120
tttgcctcag cctgactgac ccgcactttc cctggagtgt cctcatttga cctggcttaa
                                                                   180
aagactccac acactctcct ttccacatct agtcagcaag ttcttttgat tccacctcct
                                                                   240
aaattttttt actttatcct gaaacacact gccctatttg aaggtctcat cgtttcttac
                                                                   300
ctggacagtg acaataactt cctaaatgac cttgctattt ttataccacc acctctgttt
                                                                    360
caacccattt cttctcttt gccaccaggg tgatacttct aaaatctaac tctgtgcatg
                                                                    420
                                                                    480
ctggtcattt agcattgctc ttgactgaga tgaagtccag atttttggca tagcataaga
                                                                    540
gctgcttaat gacattactt ctctgttctt ccagtgtggt cttccttcag atcctcaaat
                                                                    600
ttagcattcc ctgaatcgta catattagtg gttgtgatcc agacagatcc aatgggttat
                                                                    660
aaactttgac actggagaat tgtgtatgct attcatttta cttagcatgc ctccttccta
                                                                    720
tectgaetee ectaacatae atgeceette agteteteag teteataeat teattettea
acacttgtga aatatcattt ccttttagaa atgatacgtt taaaatcatt tagaagctgg
                                                                    780
                                                                    840
tatgcctcct ctagattcct ctaccttaca aagagtatac ataacatagc actaactagt
                                                                    900
ctgggcttgg tggctcacgc ctgtaatcct agcactttgg gaggccaagg tgagtggatc
                                                                    960
atctaaggtc aggagttcaa gaccagcctg gccaacatgg tgaaacccgt ctctactaaa
                                                                   1020
atacaaaaat tagccgggca tgatggcaga tgcctgtaat ctcagctact ggggaggctg
agatgggaga atcacttgaa cccgggagac agtgattgca gtgagctgag atcgcgccac
                                                                   1080
tgcactccag cctgggcggc tgaggtgaga ctccatctca aaaaacaaaa taactaaatg
                                                                   1140
ttaaagtagg tgattttgac tcagtgtgag ttgaatggat gtaatatggc ctctctttat
                                                                   1200
                                                                   1260
attttgctac ttctagtact tgaaatttta gaacaagagc ctttctctat agatcatcta
ttactaattc ataattcagc atgatattta taatagaaat ggtttaaaaa gatgcctata
                                                                   1320
tctttagttc ttattcaaat aatattagag aatttctgtc ctctttttt ttttcttctg
                                                                   1380
ctttttaatg atttcactta ctagcatcac ctccaaagag agataacact tatttcactt
                                                                   1440
atttggtcct tgttgctttt ttttttttga gacggaatct cactcggtcg ccaggctgga
                                                                   1500
gtgcagtggc gcagtctcgg ctcactgcac tctccgcctc ccagtttcaa gcgattcccc
                                                                   1560
                                                                   1620
tacctcagcc tcccaagtag ctgggattac aggcgcctgc caccacgccc ggctaatttt
ttgcagtttt agtagagacg gggtttcacc ctgttggcca ggatggtctc aatcgcttga
                                                                   1680
ccttgtgatc caccttcctc gggctcccaa agtgctgaga ttacagatct gagccactgt
                                                                   1740
gccctgacgt tccttttttt attaacacta ataagcagct ccagttaaga cagacagaaa
                                                                   1800
1860
cacatttgta tctataatta gaaatttgat caacactgtt aactgttaac ctctgataga
                                                                   1920
                                                                   1980
gcaaagttga ggcctaatta caacataagt ctgaagaatg ctaattgttt tccatgacca
taatcaccca gtatctcatg taagtttatg tatcaggtac caggaatcag ctggtaccat
                                                                   2040
gtcaaaaaac attgtgttgg aaccagtgtt tctcctttgt gttgttctta atgatggact
                                                                   2100
gtttcagatg tatcaaaaaa aaatgaggaa taatatggca agtacccatt tctccccatc
                                                                   2160
cccttaagaa attaaacatt agggctaggc gcggtggctc acgcctgtaa tcccaacagt
                                                                   2220
ttgggaggcc gaggcaagtg gatcatgagg gcaggagttc gaaaccagct tggccaatat
                                                                   2280
ggtgaaaccc cgtctctact aaaactgcaa aaaattagcc aggcatggtg gtgggcacct
                                                                   2340
gtagtcctag ctactcatga ggctgagtca ggagaatcgc ttgaacccag gaggcagagg
                                                                   2400
ttgcagtgag ccgagatcat gccatttgca ctctagcctg ggcgacagag tgagactcca
                                                                   2460
tctcaaaaaa ataaataata aaataaaaca ttaaagacac aattgaagcc cccatgttct
                                                                   2520
ccccagttcc tcattgcaga ccccatgaag taagtactaa cttagctttc tcttaaaacc
                                                                   2580
tttgttctta taaactccat agaagtagta tatgtttcct gaaacttgct gtgtgcttcc
                                                                   2640
atttgtctaa atcaatgtcg tactttgcta tattctgtca cactggtccc ttctcaggca
                                                                   2700
ggcctctctg tgttgctctc caggtggtgg tgcctcccaa agagctcgtt ttagctggca
                                                                   2760
aggatgcagc agcagagtac gatgagttgg cagaacctca agactttcag gacgatcctg
                                                                   2820
```

2880 agtgagtgat ctttttgtga tccccataca acaaatggct gataatagaa tgcccactta tatccagttt tcttgtctgg attttttaaa ataacttttt tcttcctgtt tctaaaaata 2940 3000 attattgtag aaaattgggg aaatatatgt aagaccatga agaagaaaat aaaattatcc caccaccaga gataaacacc attagcattt tggcatttgt ccttccaaat atttctcacc 3060 tcattgggat cattctataa atacagtttt ttagcctttt tcacttgaat atattttccc 3120 3180 atgttaataa agaaattttt aattatatga ttttaatggt tgtggacagg atacaatact ctgtccctag agattgatca tcgggtttgt tccccacccc caccccttg gaggaattaa 3240 tagattttac tctctcatat ctaataactg aaaagaacca aaccttccag taactgggga 3300 ctgtgaccat cagagaattc agtctgtaga ctgaatgttt tcaatgattc gaacagagga 3360 tttaatataa ataattgttc acttgtgtaa cttaaaaagt gaaaaagaac actgaagtag 3420 caattttatg ctacttcatg ggcataaaat ttcaaagata gctatttgat gagccagcta 3480 ccaccctta ggtggaggga acaaagggaa atagttagaa ttattaaaat ttagaactta 3540 3600 aacaaagagc tccatgtagc tgaaactcag gcctccagtg agctgaaggg gaacactgct 3660 tgcgtggtcc tggcatctcg tgatggcaaa ggaggggtgg catgattata caagaattgg 3720 aaaacttcaa ctgcttactg ccacttcctc ctgggtaaag aagcattgct gggccgggca 3780 tggtggctta cccctgtatt ctcaacactt tgggaggctg aggcaggagg attgcttcac 3840 aggagtttga aaccagccta ggaatagagt taagactccg tctctacaaa aaaattttaa 3900 aaatagccag gtgtagcagc gcatgcttgt agtcccagct actcaggata ccagggtggg 3960 agaatcagtt gagcccggta ggctgaggct gcagtcagct gtgattgtga ctgtactcca 4020 cacagggaac agggaccaca agcaaacagg aatctctaaa ggaagagcaa gacccttcct 4080 cctccagact tctagtctcc ctttagagcc cgctgctgac agaacctgac aaagagccat 4140 4200 ccgatccagc agatacagtc caagcagaat cctgtgtcac aaagcaaaat tgagagaggt gcgcttggag ctgaaaaata atagcttagt aaactggcac agggaacatt cacagtcttt 4260 4320 gttttgtttt tagagaagga gtctctgtcg cccaggctgg agtgcaatgg cgtgatctcc tgctcactgc aacctccacc tcccgagttc aagcagttct cctgcctcag cctcctgagg 4380 agcttgtatt acaggcaagc gccaccacgc ctggccaatt tttgtatttt tagtagagat 4440 ggggttttgc catgttgccc aggctggtct tgaactcctg acctaaagtg atccacccga 4500 4560 cttggtctcc caaagtgctg ggattacagg cgtgagccac catgcctggc ccatttacgg ttttttgaca gaatgatcaa aagctttctc aacaagatat tagagagaag agataacaag 4620 4680 qtqqqttaga aaaataaagt gaagccaggt gtggtggctg atgcctgtaa tcccagcact ttgggaggct gaggcaggca gatcacttga ggtcaggagt ttgagaccag cctggccaac 4740 atggcgaaat cctgtctcta ctaaaaatac aaaaattagc caggcgtggt ggcacgtgcc 4800 4860 tgtaatccca gcttcttggg aggctgagat gggagaatca cttgaaccct aggggcgggg gttgcagtga actcagatca cgccactaca ctccagcctg ggcaacagag ccagactccg 4920 4980 tctcaaaaaa aaaaaaaaaa gaaaagaaaa gaaaaataaa gtgaaggcaa aggtgagatt agtttagtga taccaaacgt gggttaactt cagaaagcac caggtcaagt gttgttttgt 5040 tttgttgttc gatagcattc cagaccctaa ccccagagga ttttttttag caggtctagc 5100 tagggaccag aaatccaaat ttgttttgga aaagcttccc aggtatcagt ggttgcctgg 5160 gaaattaagg ataaaaagaa agactgatgt ttttcttttt accattttaa actgtttgaa 5220 ttatttttta catgactcat acaaatcaaa ggtctggtta gttactgtaa tacaaaatgt 5280 gctgagttgt acagtacaaa atgtgttctc tcaaatcctt gctttatgtg ggtcctcaaa 5340 ttaattaggt acagaaattt gttaagccaa gatatacttc tggaatgatt gtctgagata 5400 tcagatttca gcctgattac atgatagagt aattaaaaac tgaattaatt atattttaca 5460 ttattagatt taatagaact ttcagatttc tggaaactaa cactgtataa atatgtaaat 5520 5580 atgtaatccc agtaaccttt cttagagtaa ctgaatgtca tttgggtagt agacaaattc 5640 tgtttatttc attgcccttt tactttcaga aactaagtta ttaaagcaca aactgtatgc acaaatgagg ggaaattgaa atgcaaacct caatgaagag acatttttgt gctaaaattc 5700 ctaattacat aagttattta caaaaacatt cttgatttat ggtgttccaa aatttccctt 5760 5820 aaagcactga gttattaaaa cttcccacag tatggccagg catggtggct catgcctata atcccagcac tttgggaggc caaggcagaa ggatcatttg agcttaggag gtcaaggcta 5880 ccatgaacta tgatcgtgcc actgctctcc agcctgggta acagagcaaa agccttgtct 5940 ctaaaaaata aaaataaggc cgggtgcatt ggcttatgct tgtgatccca gcactttggg 6000 6060 aggctgaggc gggtggatca cctgagatca ggagttcgag accagtctga ccaatgtggt 6120 gaaaccccat ctctactaaa attataaaaa ttagctgggc gtgatggtgt gcacctgtaa 6180 tcccagctac tcaggaggcc gaggcaggag aatcgctgga acccaggagg cggaggttgc ggtgagccaa gattgcgcca ctgcactcca gcctgggtga cagagcgaga ctccatctca 6240 6300 aaaaaataaa taaataaata actttccacg gtatgagtct atgttctata gaaatattgc 6360 atttgcacag aggtaaatgt aaagggatgt ttgcagcacc attgtttata atagagaaaa gttgtcagca acctcagtat atgccaatta tggtaaacac ataattgaat actgtgcaac 6420 cattacatag attgtagatg atctgtatat accagcgtca aaaggtgttt gtgataaaca 6480

gagi	ttaaaaa	aaagcaagtt	atggaatagt	gtgtaccatc	tatattaatt	agaaaagcag	6540
aaaa	agtataa	gctcatagaa	aaatatatgg	ccaacatatt	ggcttatgcc	cqtaatccca	6600
acai	cttttaa	aggccaaggc	aagcagatca	cctgagccct	gatattcgag	accagectgg	6660
aca	scataac	gaaaccccat	ctccaccaaa	aaatatacqt	attaatatat	aaagctagcc	6720
add	tataata	gtgcatgcct	gtagtcccag	ctactcggga	gactgagatg	ggagagttac	6780
tta	acccat	gaaacagagg	ttacagtgac	ccaaggtgga	gccattgcac	tccagcctgg	6840
aca	agecege	gagactgtgt	ctcaaaacaa	aacaaaaaaa	tacttggtag	gttaagaaca	6900
gogo	tatttat	aggttttctg	tatatactaa	aggaaagaat	aaggtgaaag	acttttactg	6960
taag	atattaa	tggtttggct	gatttttta	tctacctaat	acttoctttt	ttttctttcc	7020
2+2	gcettag	agccttcaga	aaddccaaca	aagtgggtat	tttcatcaaa	gttacaccac	7080
200	gtattat	gggtgaagtg	accutatact	tcaagatgaa	gcatgatttt	aaaaacctgg	7140
age	ccccat	tcgccccatt	gagagagta	accagggaac	agaagtcatc	taactcaccc	7200
agg	atataaa	acttagcttg	gaagaaageg	ttccttaaaa	ggttccactg	gagggcagat	7260
age	acgegga	agtatcaccg	taaacctgcg	ttaaaatgtg	gaagctgctg	cttcattagg	7320
cat	tatttat	aacgatgtac	ccatgcacta	cggaattcta	ttactaagaa	agtgggagca	7380
tag	raceeac	attgggaaca	canantanet	actattacta	ttgctctcac	ccctattaac	7440
cag	gcaaggc	ctgtgtctcc	ctcactgaac	cctacacatt	gagtaacagc	agcataattc	7500
act	agtaagt	aaggggatgg	atattactta	gaatggcatt	gtatttacca	cctgagaaac	7560
tat	atactat	ctcttgatct	gegeteettg	aggatcacaa	tatcacagat	gaaacttaaa	7620
+ ~ 2	taccgc	aaggtagacc	tactattaat	gatccaccat	tagtcacaat	gtaccaactg	7680
cya a++	tatcca	tccgttaaat	atcatctaac	actctaaaac	atatecette	attoccataa	7740
+~~	ctagast	tttgccatag	atttccatat	aactgaaaaa	ctgaattgtc	actttatctt	7800
tag	tatcato	atgattggaa	aaacctgtga	agttgttaag	gcactctcat	ttaccctctt	7860
tag +++	ctandata	aatacaggac	acctattact	tattattaat	ttttttccca	gtaaaatatg	7920
ant.	cttaagig	gaagaatttg	acgedeeage	aattacatgt	catatcaaga	gggt.agcaga	7980
yat ++a	cttttaa	tttcaatatt	agaageatac	ccagggatta	atactaccac	agggggggaa	8040
tat	ttattege	tcttacttcc	taccccttcc	ctattctacc	tctttaactc	agttaagttg	8100
++0	tatta	gacctggaaa	adaacccaaa	gaaaacctga	atagacaggt	tcatttctqq	8160
22+	racaaaaa	acattttaaa	agaacccaaa	ttagaatatt	ctcaactage	attettteea	8220
tta	gcayaaa	ggggaaatta	actattataa	tctcttgaat	ccaaaactgg	atattaagaa	8280
att	tecceet	tactaagttt	aagacttttg	tcatgtggtg	agtcaaataa	gaccattttg	8340
2++	ctaaacc	ataaaatagt	tcaccaacta	acceacagtt	ctggcctaac	agcagacttg	8400
att	ttttcac	ttggtatcct	agagttagat	toctaacctt	aatttctatq	atottttcta	8460
222	traaact	tgataaagta	gaccaccage	tacaccatat	tttctgtaaa	agtattgtta	8520
ata	eagtaacc	aagagacttg	aggaaaatac	agatttttg	tttaccttqq	tcttqtttta	8580
aat	cttaaaa	aattaaagat	aacattataa	tgtagaatac	agatgggaca	tagtccttgt	8640
aad	retteest	tgaaaatgtt	ttaaatattt	aggaagettt	taaaagacac	taaattgtac	8700
tet	aaaagac	actaaattgt	actaattota	caaaggtcaa	gccaatttta	tgaaacagtc	8760
cta	cagagta	atatatgtga	tacaatataa	gaaggaaaat	actcatctct	aacattatgg	8820
taa	taacatt	tagcctctta	ggagttggag	cagggggatg	ggtaattaca	gatttgcaga	8880
cta	tagaaag	agtttcattt	ttttqtqacc	ccacagagtc	tcaaattttt	atttcactac	8940
cto	actagage	ctactgtgaa	atcactgctc	catatttgcc	agtggaggaa	atgggcatag	9000
agt	agagaat	agcttcatat	gtttacacgt	ttgcatagac	tacacacatg	tcatgcgttt	9060
ato	acagata	gctggtattt	attccccaaa	gtaataatgt	tgaagtatgg	gtctcatcat	9120
tcc	ccatacac	agaaacacaa	aacactttga	tcataaactt	ttttcttcag	aagccaaact	9180
aac	cttgcaga	ataatagagc	cactggttta	atgtttcctc	aagataggtt	ttagtgtaag	9240
cta	agtattct	gtgtgttcgt	agaaatgatt	caatacctgc	agctggtgaa	ttaggaattg	9300
tat	ttattac	cttttttata	ttagatgagg	tgcaaaaatt	ttaatgctag	tcagtatgca	9360
cca	accacagg	aaagttagat	cccattagca	cttgaaacta	cagctttgga	aacttaggct	9420
aac	gttaattt	ggatttgtta	cttgattcac	ctactgacct	tttcttttgt	ttgaagtgct	9480
tat	cagcata	atgagctaag	tgtcatgcat	atttgtgaag	aaacaccctt	tttggtccct	9540
ttt	gggacag	agaggtactc	cttgatcttt	atgaatgaca	ggttactgtt	ttgccttatt	9600
gct	taactta	atgtagtgaa	ataaagcaga	caaagcttga	gcgtgtcttt	tgtttgctct	9660
cat	gtagata	ctaagtagca	tggctcagag	ccaaaagaca	agcgtgaagt	taagagagtt	9720
ggc	ctaagaga	gttggtggg	catgctccct	tccattcctt	aaatgaagta	atctaaaatc	9780
tct	tagcagg	ttagttcacc	ataatatata	agtagatgtt	gctttgagct	tcttatatac	9840
		aaccattata					9880

<210> 12916 <211> 9879

-400- 10016						
<400> 12916		actottacaa	atccacttca	gaacctcacc	catgtgactc	60
aggagageea	taaaaaaaa	gaccctgatg	atatcaacad	cactgctaag	gtaggaggat	120
tttagataaa	cataaataaa	ccccactttc	cctagaatat	cctcatttga	cctggcttaa	180
cergeteag	agagtataat	ttgcacatct	artcarcaar	ttcttttgat	tccacctcct	240
aagactccac	acacteteet	gaaagagagt	agccagcaag	aaggtctcat	catttcttac	300
						360
ctggacagtg	acaataactt	cctaaatyac	tratagetattt	ttataccacc	tetatacata	420
caacccattt	cttctctctt	gecaccaygg	tgatattttt	aaaatctaac	taggataaga	480
ctggtcattt	ageattgete	Ligacigaga	tgaagtccag	atttttggca	ataataaaat	540
gctgcttaat	gacattactt	ctetgttett	ccagigiggi	cttccttcag	attecetaat	600
ttagcattcc	ctgaatcgta	catattagtg	grigigatee	agacagatcc	aacgggccac	660
aaactttgac	actggagaat	tgtgtatget	acticatica	cttagcatgc	tcattcttca	720
teetgaetee	cctaacatac	atgeceette	agreered	tctcatacat	tagaagtgg	780
acacttgtga	aatatcattt	ccttttagaa	atgatacgtt	taaaatcatt	actaactact	840
				ataacatagc		900
ctgggcttgg	tggctcacgc	ctgtaatcct	agcactttgg	gaggccaagg	ctatoatasa	960
atctaaggtc	aggagttcaa	gaccagcctg	gecaacatgg	tgaaacccgt	cccaccaaa	1020
atacaaaaat	tagccgggca	tgatggcaga	tgcctgtaat	ctcagctact	ggggaggetg	1020
agatgggaga	atcgcttgaa	cccgggagac	agtgattgca	gtgagctgag	tagetageac	1140
tgcactccag	cctgggcggc	tgaggtgaga	ctccatctca	aaaaacaaaa	taactaaaty	1200
ttaaagtagg	tgattttgac	tcagtgtgag	ttgaatggat	gtaatatggc	Cicicitat	
attttgctac	ttctagtact	tgaaatttta	gaacaagagc	ctttctctat	agattatta	1260 1320
ttactaattc	ataattcagc	atgatattta	taatagaaat	ggtttaaaaa	gatgeetata	1320
tctttagttc	ttattcaaat	aatattagag	aatttctgtc	ctctttttt	ttttcttctg	
ctttttaatg	atttcactta	ctagcatcac	ctccaaagag	agataacact	tatttcactt	1440
atttggtcct	tgttgctttt	ttttttttga	gacggaatct	cactcggtcg	ccaggetgga	1500
gtgcagtggc	gcagtctcgg	ctcactgcac	teteegeete	ccagtttcaa	gcgatteece	1560
tacctcagcc	tcccaagtag	ctgggattac	aggcgcctgc	caccacgccc	ggctaatttt	1620
ttgcagtttt	agtagagacg	gggtttcacc	ctgttggcca	ggatggtctc	aatcgcttga	1680
ccttgtgatc	caccttcctc	gggctcccaa	agtgctgaga	ttacagatct	gagccactgt	1740
gccctgacgt	tcctttttt	attaacacta	ataagcagct	ccagttaaga	cagacagaaa	1800
taagtacctg	atgcataagc	acagcatatc	tttataaagc	tctctttata	cctcccctcc	1860
cacatttgta	tctataatta	gaaatttgat	caacactgtt	aactgttaac	ctctgataga	1920
gcaaagttga	ggcctaatta	caacataagt	ctgaagaatg	ctaattgttt	tccatgacca	1980
taatcaccca	gtatctcatg	taagtttatg	tatcaggtac	caggaatcag	ctggtaccat	2040
gtcaaaaaac	attgtgttgg	aaccagtgtt	tctcctttgt	gttgttctta	atgatggact	2100
gtttcagatg	tatcaaaaaa	aaatgaggaa	taatatggca	agtacccatt	teteeceate	2160 2220
cccttaagaa	attaaacatt	agggctaggc	geggtggete	acgcctgtaa	teceaacagi	2280
ttgggaggcc	gaggcaagtg	gatcatgagg	gcaggagttc	gaaaccagct	tggccaatat	2340
ggtgaaaccc	cgtctctact	aaaactgcaa	aaaattagcc	aggcatggtg	grgggcaeer	2400
gtagtcctag	ctactcatga	ggctgagtca	ggagaatcgc	ttgaacccag	gaggcagagg	
ttgcagtgag	ccgagatcat	gccatttgca	ctctagcctg	ggcgacagag	tgagactcca	2460 2520
tctcaaaaaa	ataaataata	aaataaaaca	ttaaagacac	aattgaagcc	cccatgitet	2580
ccccagttcc	tcattgcaga	ccccatgaag	taagtactaa	cttagctttc	CCCCaaaacc	2640
tttgttctta	taaactccat	agaagtagta	tatgtttcct	gaaacttgct	gtgtgettee	2700
atttgtctaa	atcaatgtcg	tactttgcta	tattctgtca	cactggtccc	ttctcaggca	
ggcctctctg	tgttgctctc	caggtggtgg	tgcctcccaa	agagetegtt	ttagctggca	2760
aggatgcagc	agcagagtac	gatgagttgg	cagaacctca	agactttcag	gacgatcctg	2820 2880
agtgagtgat	ctttttgtga	tccccataca	acaaatggct	gataatagaa	tgcccactta	2940
tatccagttt	tcttgtctgg	atttttaaa	ataacttttt	cctcctgtt	tctaaaaata	3000
attattgtag	aaaattgggg	aaatatatgt	aagaccatga	agaagaaaat	aaaattatcc	
caccaccaga	gataaacacc	attagcattt	tggcatttgt	ccttccaaat	atttctcacc	3060 3120
tcattgggat	cattctataa	atacagtttt	ttagcctttt	tcacttgaat	atattttccc	3120
atgttaataa	agaaattttt	aattatatga	tttaatggt	tgtggacagg	atacaatact	
ctgtccctag	agattgatca	tcgggtttgt	tccccacccc	cacccccttg	gaggaattaa	3240
tagattttac	tctctcatat	ctaataactg	aaaagaacca	aaccttccag	taactgggga	3300
ctgtgaccat	cagagaattc	agtctgtaga	ctgaatgttt	tcaatgattc	gaacagagga	3360
tttaatataa	ataattgttc	acttgtgtaa	cttaaaaagt	gaaaaagaac	actgaagtag	3420

3480 caattttatg ctacttcatg ggcataaaat ttcaaagata gctatttgat gagccagcta ccaccctta ggtggaggga acaaagggaa atagttagaa ttattaaaat ttagaactta 3540 3600 aacaaagagc tccatgtagc tgaaactcag gcctccagtg agctgaaggg gaacactgct 3660 tgcgtggtcc tggcatctcg tgatggcaaa ggaggggtgg catgattata caagaattgg aaaacttcaa ctgcttactg ccacttcctc ctgggtaaag aagcattgct gggccgggca 3720 tggtggctta cccctgtatt ctcaacactt tgggaggctg aggcaggagg attgcttcac 3780 aggagtttga aaccagccta ggaatagagt taagactccg tctctacaaa aaaattttaa 3840 aaatagccag gtgtagcagc gcatgcttgt agtcccagct actcaggata ccagggtggg 3900 agaatcagtt gagcccggta ggctgaggct gcagtcagct gtgattgtga ctgtactcca 3960 4020 4080 cacagggaac agggaccaca agcaaacagg aatctctaaa ggaagagcaa gacccttcct 4140 cctccagact tctagtctcc ctttagagcc cgctgctgac agaacctgac aaagagccat 4200 ccgatccagc agatacagtc caagcagaat cctgtgtcac aaagcaaaat tgagagaggt 4260 gcgcttggag ctgaaaaata atagcttagt aaactggcac agggaacatt cacagtcttt 4320 gttttgtttt tagagaagga gtctctgtcg cccaggctgg agtgcaatgg cgtgatctcc tgctcactgc aacctccacc tcccgagttc aagcagttct cctgcctcag cctcctgagg 4380 4440 agcttgtatt acaggcaagc gccaccacgc ctggccaatt tttgtatttt tagtagagat 4500 ggggttttgc catgttgccc aggctggtct tgaactcctg acctaaagtg atccacccga cttggtctcc caaagtgctg ggattacagg cgtgagccac catgcctggc ccatttacgg 4560 4620 ttttttgaca gaatgatcaa aagctttctc aacaagatat tagagagaag agataacaag 4680 gtgggttaga aaaataaagt gaagccaggt gtggtggctg atgcctgtaa tcccagcact ttgggaggct gaggcaggca gatcacttga ggtcaggagt ttgagaccag cctggccaac 4740 4800 atggcgaaat cctgtctcta ctaaaaatac aaaaattagc caggcgtggt ggcacgtgcc 4860 tgtaatccca gcttcttggg aggctgagat gggagaatca cttgaaccct aggggcgggg gttgcagtga actcagatca cgccactaca ctccagcctg ggcaacagag ccagactccg 4920 4980 tctcaaaaaa aaaaaaaaa gaaaagaaaa gaaaaataaa gtgaaggcaa aggtgagatt 5040 agtttagtga taccaaacgt gggttaactt cagaaagcac caggtcaagt gttgttttgt tttgttgttc gatagcattc cagaccctaa ccccagagga ttttttttag caggtctagc 5100 tagggaccag aaatccaaat ttgttttgga aaagcttccc aggtatcagt ggttgcctgg 5160 gaaattaagg ataaaaagaa agactgatgt ttttcttttt accattttaa actgtttgaa 5220 5280 ttatttttta catgactcat acaaatcaaa ggtctggtta gttactgtaa tacaaaatgt gctgagttgt acagtacaaa atgtgttctc tcaaatcctt gctttatgtg ggtcctcaaa 5340 ttaattaggt acagaaattt gttaagccaa gatatacttc tggaatgatt gtctgagata 5400 tcagatttca gcctgattac atgatagagt aattaaaaac tgaattaatt atattttaca 5460 ttattagatt taatagaact ttcagatttc tggaaactaa cactgtataa atatgtaaat 5520 atgtaatccc agtaaccttt cttagagtaa ctgaatgtca tttgggtagt agacaaattc 5580 tgtttatttc attgcccttt tactttcaga aactaagtta ttaaagcaca aactgtatgc 5640 acaaatgagg ggaaattgaa atgcaaacct caatgaagag acatttttgt gctaaaattc 5700 ctaattacat aagttattta caaaaacatt cttgatttat ggtgttccaa aatttccctt 5760 5820 aaagcactga gttattaaaa cttcccacag tatggccagg catggtggct catgcctata 5880 atcccagcac tttgggaggc caaggcagaa ggatcatttg agcttaggag gtcaaggcta ccatgaacta tgatcgtgcc actgctctcc agcctgggta acagagcaaa accttgtctc 5940 taaaaaataa aaataaggcc gggtgcattg gcttatgctt gtgatcccag cactttggga 6000 ggctgaggcg ggtggatcac ctgagatcag gagttcgaga ccagtctgac caatgtggtg 6060 aaaccccatc tctactaaaa ttataaaaat tagctgggcg tgatggtgtg cacctgtaat 6120 cccagctact caggaggccg aggcaggaga atcgctggaa cccaggaggc ggaggttgcg 6180 gtgagccaag attgcgccac tgcactccag cctgggtgac agagcgagac tccatctcaa 6240 aaaaataaat aaataaataa ctttccacgg tatgagtcta tgttctatag aaatattgca 6300 tttgcacaga ggtaaatgta aagggatgtt tgcagcacca ttgtttataa tagagaaaag 6360 ttgtcagcaa cctcagtata tgccaattat ggtaaacaca taattgaata ctgtgcaacc 6420 attacataga ttgtagatga tctgtatata ccagcgtcaa aaggtgtttg tgataaacag 6480 agttaaaaaa aagcaagtta tggaatagtg tgtaccatct gtgttggtta gaaaagcaga 6540 aaagtataag ctcatagaaa aatatatggc caacgtgttg gcttatgccc gtaatcccag 6600 cacttttgga ggccaaggca agcagatcac ctgagccctg gtgttcgaga ccagcctggg 6660 caacgtggcg aaaccccatc tccaccaaaa aatatacgta ttaatatata aagctagcca 6720 ggtgtggtgg tgcatgcctg tagtcccagc tactcgggag gctgagatgg gagagttact 6780 6840 tgagcccgtg aaacagaggt tgcagtgacc caaggtggag ccattgcact ccagcctggg cgacagagcg agactgtgtc tcaaaacaaa acaaaaaaat acttggtagg ttaagaacaa 6900 agtgtttata ggttttctgt gtgtgctgaa ggaaagaata aggtgaaaga cttttactgt 6960 aagtcttagt ggtttggctg attttttat ctacctaata cttgcttttt tttctttcca 7020 tagcattata gccttcagaa aggccaacaa agtgggtatt ttcatcaaag ttacaccaca 7080

```
gcgtgaggag ggtgaagtga ccgtgtgctt caagatgaag catgatttta aaaacctggc
                                                                     7140
                                                                     7200
agcccccatt cgccccattg aagaaagtga ccagggaaca gaagtcatct ggctcaccca
                                                                     7260
gcatgtggaa cttagcttgg gcccacttct tccttaaaag gttccactgg agggcagatc
                                                                     7320
ccaaaggaca gtatcaccgt aaacctgcgt taaaatgtgg aagctgctgc ttcattaggc
                                                                     7380
cttgtttata acgatgtacc catgcactac ggaattctat tgctaagaaa gtgggagcat
                                                                     7440
aggcaaggca ttgggaacac agggtagctg ctgttgctct tgctctcacc cctgttgaca
                                                                     7500
ccagtaagtc tgtgtctccc tcactgaacc ctgcacgttg agtaacagca gcataattcc
atcctaggaa aggggatggg tgttccttgg aatggcattg tatttaccac ctgagaaact
                                                                     7560
ctgtactgtc tcttgatctg atctcactaa ggatcacaat gtcacagatg aaacttaaat
                                                                     7620
gataacccaa aggtagacct gctgttaatg atccagcatt ggtcacaatg taccaactgc
                                                                     7680
                                                                     7740
tttctgcatt ccgttaaata tcatctaaca gtctaaaaaca tatcccttca ttgccataat
ggctgccatt ttgccataga tttccatata actgaaaaac tgaattgtca ctttatcttt
                                                                     7800
agtatcatga tgattggaaa aacctgtgaa gttgttaagg cactctcatt tgccctcttt
                                                                     7860
                                                                     7920
ttctaagtga atacaggaca cgtattagtt gttcttaatt tttttcccag taaaatatgg
atcttttaag aagaatttga gaagcaaaca attacatgtc atgtcaaggg ggtagcagat
                                                                     7980
tccattcgtt ttcaatattg ccacaatacc cagggattaa tgctgccaca ggggggcaat
                                                                     8040
ctttatttgt cttacttcct accccttccc tgttctgcct ctttaactca gttaagttgt
                                                                     8100
tctgtttggg acctggaaaa gaacccaaag aaaacctgag tggacaggtt catttctgga
                                                                     8160
atgcagaaaa cattttaaag gctagatttt tagaatattc tcaactagca ttctttccat
                                                                     8220
tgatttgaag gggaaattaa ctattataat ctcttgaatc caaaactgga tattaagaac
                                                                     8280
                                                                     8340
tttccccctt actaagttta agacttttgt catgtggtga gtcaaataag accattttga
                                                                     8400
ttgtaaacca taaaatagtt cagcaagtag cccacagttc tggcctaaca gcagacttgc
                                                                     8460
tgttttcact tggtatcctg gagttgggtt gctaacctta atttctatga tgttttctaa
                                                                     8520
aatgaaactt gataaagtag accaccagct gcaccgtgtt ttctgtaaaa gtattgttag
                                                                     8580
taagtggcca agagacttga ggaaaataca gattttttgt ttaccttggt cttgttttaa
                                                                     8640
gtcttaaaaa attaaagata acattataat gtagaataca gatgggacat agtccttgta
                                                                     8700
agetteeett gaaaatgttt taaatattta ggaagetttt aaaagacaet aaattgtaet
                                                                     8760
ctaaaagaca ctaaattgta ctaattgtac aaaggtcaag ccaattttat gaaacagtcc
                                                                     8820
tacagagtaa tatatgtgat gcagtgtaag aaggaaaata ctcatctcta acattatggt
                                                                     8880
aataacattt agcctcttag gagttggagc agggggatgg gtaattacag atttgcagac
                                                                     8940
tatagaaaga gtttcatttt tttgtgaccc cacagagtct caaattttta tttcactacc
                                                                     9000
tgctagagcc tactgtgaaa tcactgctcc atatttgcca gtggaggaaa tgggcataga
gtagagaata gcttcatatg tttacacgtt tgcatagact acacacatgt catgcgttta
                                                                     9060
tggcaggtag ctggtattta ttccccaaag taataatgtt gaagtatggg tctcatcatt
                                                                     9120
                                                                     9180
cccatacaca gaaacacaaa acactttgat cataaacttt tttcttcaga agccaaacta
                                                                     9240
acttgcagaa taatagagcc actggtttaa tgtttcctca agataggttt tagtgtaagc
                                                                     9300
tagtattctg tgtgttcgta gaaatgattc aatacctgca gctggtgaat taggaattgt
                                                                     9360
atttgttgcc ttttttatat tagatgaggt gcaaaaattt taatgctagt cagtatgcac
caccacagga aagttagatc ccattagcac ttgaaactac agctttggaa acttaggcta
                                                                     9420
                                                                     9480
agttaatttg gatttgttac ttgattcacc tactgacctt ttcttttgtt tgaagtgctt
                                                                     9540
atcagcataa tgagctaagt gtcatgcata tttgtgaaga aacacccttt ttggtccctt
                                                                     9600
ttgggacaga gaggtactcc ttgatcttta tgaatgacag gttactgttt tgccttattg
                                                                     9660
cttaacttaa tgtagtgaaa taaagcagac aaagcttgag cgtgtctttt gtttgctctc
                                                                     9720
atgtagatac taagtagcat ggctcagagc caaaagacaa gcgtgaagtt aagagagttg
gctaagagag ttggtggggc atgctccctt ccattcctta aatgaagtaa tctaaaatct
                                                                     9780
cttagcaggt tagttcacca taatatata gtagatgttg ctttgagctt cttatataca
                                                                     9840
                                                                     9879
tattcacaga accattatat aaatgttgtt agacctcta
<210> 12917
<211> 9878
<212> DNA
<213> Homo sapiens
<400> 12917
aggagagcca ggtcctcctg actcttacaa atccagttga gaacctcacc catgtgactc
                                                                       60
tcttcgagtg tgaggagggg gaccctgatg atatcaacag cactgctaag gtaggagcat
                                                                      120
tttgcctcag cctgactgac ccgcactttc cctggagtgt cctcatttga cctggcttaa
                                                                      180
aagactccac acactctcct ttccacatct agtcagcaag ttcttttgat tccacctcct
                                                                      240
```

aaatttttt actttatcct gaaacacact gccctatttg aaggtctcat cgtttcttac ctggacagtg acaataactt cctaaatgac cttgctattt ttataccacc acctctgttt

300

360

420 caacccattt cttctctctt gccaccaggg tgatacttct aaaatctaac tctgtgcatg ctggtcattt agcattgctc ttgactgaga tgaagtccag atttttggca tagcataaga 480 540 gctgcttaat gacattactt ctctgttctt ccagtgtggt cttccttcag atcctcaaat ttagcattcc ctgaatcgta catattagtg gttgtgatcc agacagatcc aatgggttat 600 660 aaactttgac actggagaat tgtgtatgct attcatttta cttagcatgc ctccttccta 720 tcctgactcc cctaacatac atgccccttc agtctctcag tctcatacat tcattcttca acacttgtga aatatcattt ccttttagaa atgatacgtt taaaatcatt tagaagctgg 780 tatgcctcct ctagattcct ctaccttaca aagagtatac ataacatagc actaactagt 840 ctgggcttgg tggctcacgc ctgtaatcct agcactttgg gaggccaagg tgagtggatc 900 atctaaggtc aggagttcaa gaccagcctg gccaacatgg tgaaacccgt ctctactaaa 960 1020 atacaaaaat tagccgggca tgatggcaga tgcctgtaat ctcagctact ggggaggctg 1080 agatgggaga atcacttgaa cccgggagac agtgattgca gtgagctgag atcgcgccac 1140 tgcactccag cctgggcggc tgaggtgaga ctccatctca aaaaacaaaa taactaaatg 1200 ttaaagtagg tgattttgac tcagtgtgag ttgaatggat gtaatatggc ctctctttat 1260 attttgctac ttctagtact tgaaatttta gaacaagagc ctttctctat agatcatcta ttactaattc ataattcagc atgatattta taatagaaat ggtttaaaaa gatgcctata 1320 1380 tctttagttc ttattcaaat aatattagag aatttctgtc ctctttttt ttttcttctg ctttttaatg atttcactta ctagcatcac ctccaaagag agataacact tatttcactt 1440 atttggtcct tgttgctttt ttttttttga gacggaatct cactcggtcg ccaggctgga 1500 gtgcagtggc gcagtctcgg ctcactgcac tctccgcctc ccagtttcaa gcgattcccc 1560 1620 tacctcagcc tcccaagtag ctgggattac aggcgcctgc caccacgccc ggctaatttt ttgcagtttt agtagagacg gggtttcacc ctgttggcca ggatggtctc aatcgcttga 1680 ccttgtgatc caccttcctc gggctcccaa agtgctgaga ttacagatct gagccactgt 1740 gccctgacgt tcctttttt attaacacta ataagcagct ccagttaaga cagacagaaa 1800 1860 cacatttgta tctataatta gaaatttgat caacactgtt aactgttaac ctctgataga 1920 1980 gcaaagttga ggcctaatta caacataagt ctgaagaatg ctaattgttt tccatgacca taatcaccca gtatctcatg taagtttatg tatcaggtac caggaatcag ctggtaccat 2040 gtcaaaaaac attgtgttgg aaccagtgtt tctcctttgt gttgttctta atgatggact 2100 gtttcagatg tatcaaaaaa aaatgaggaa taatatggca agtacccatt tctccccatc 2160 2220 cccttaagaa attaaacatt agggctaggc gcggtggctc acgcctgtaa tcccaacagt ttgggaggcc gaggcaagtg gatcatgagg gcaggagttc gaaaccagct tggccaatat 2280 ggtgaaaccc cgtctctact aaaactgcaa aaaattagcc aggcatggtg gtgggcacct 2340 gtagtcctag ctactcatga ggctgagtca ggagaatcgc ttgaacccag gaggcagagg 2400 ttgcagtgag ccgagatcat gccatttgca ctctagcctg ggcgacagag tgagactcca 2460 tctcaaaaaa ataaataata aaataaaaca ttaaagacac aattgaagcc cccatgttct 2520 ccccagttcc tcattgcaga ccccatgaag taagtactaa cttagctttc tcttaaaacc 2580 tttgttctta taaactccat agaagtagta tatgtttcct gaaacttgct gtgtgcttcc 2640 atttgtctaa atcaatgtcg tactttgcta tattctgtca cactggtccc ttctcaggca 2700 2760 ggcctctctg tgttgctctc caggtggtgg tgcctcccaa agagctcgtt ttagctggca aggatgcagc agcagagtac gatgagttgg cagaacctca agactttcag gacgatcctg 2820 2880 agtgagtgat ctttttgtga tccccataca acaaatggct gataatagaa tgcccactta 2940 tatccagttt tcttgtctgg attttttaaa ataacttttt tcttcctgtt tctaaaaata attattgtag aaaattgggg aaatatatgt aagaccatga agaagaaaat aaaattatcc 3000 caccaccaga gataaacacc attagcattt tggcatttgt ccttccaaat atttctcacc 3060 tcattgggat cattctataa atacagtttt ttagcctttt tcacttgaat atattttccc 3120 atgttaataa agaaattttt aattatatga ttttaatggt tgtggacagg atacaatact 3180 ctgtccctag agattgatca tcgggtttgt tccccacccc caccccttg gaggaattaa 3240 tagattttac tctctcatat ctaataactg aaaagaacca aaccttccag taactgggga 3300 ctgtgaccat cagagaattc agtctgtaga ctgaatgttt tcaatgattc gaacagagga 3360 3420 tttaatataa ataattgttc acttgtgtaa cttaaaaagt gaaaaagaac actgaagtag caattttatg ctacttcatg ggcataaaat ttcaaagata gctatttgat gagccagcta 3480 ccaccctta ggtggaggga acaaagggaa atagttagaa ttattaaaat ttagaactta 3540 aacaaagagc tccatgtagc tgaaactcag gcctccagtg agctgaaggg gaacactgct 3600 3660 tgcgtggtcc tggcatctcg tgatggcaaa ggaggggtgg catgattata caagaattgg aaaacttcaa ctgcttactg ccacttcctc ctgggtaaag aagcattgct gggccgggca 3720 tggtggctta cccctgtatt ctcaacactt tgggaggctg aggcaggagg attgcttcac 3780 3840 aggagtttga aaccagccta ggaatagagt taagactccg tctctacaaa aaaattttaa 3900 aaatagccag gtgtagcagc gcatgcttgt agtcccagct actcaggata ccagggtggg agaatcagtt gagcccggta ggctgaggct gcagtcagct gtgattgtga ctgtactcca 3960 4020

4080 cacagggaac agggaccaca agcaaacagg aatctctaaa ggaagagcaa gacccttcct cctccagact tctagtctcc ctttagagcc cgctgctgac agaacctgac aaagagccat 4140 ccgatccagc agatacagtc caagcagaat cctgtgtcac aaagcaaaat tgagagaggt 4200 gcgcttggag ctgaaaaata atagcttagt aaactggcac agggaacatt cacagtcttt 4260 gttttgtttt tagagaagga gtctctgtcg cccaggctgg agtgcaatgg cgtgatctcc 4320 4380 tgctcactgc aacctccacc tcccgagttc aagcagttct cctgcctcag cctcctgagg agcttgtatt acaggcaagc gccaccacgc ctggccaatt tttgtatttt tagtagagat 4440 4500 qqqqttttgc catgttgccc aggctggtct tgaactcctg acctaaagtg atccacccga cttggtctcc caaagtgctg ggattacagg cgtgagccac catgcctggc ccatttacgg 4560 ttttttgaca gaatgatcaa aagctttctc aacaagatat tagagagaag agataacaag 4620 gtgggttaga aaaataaagt gaagccaggt gtggtggctg atgcctgtaa tcccagcact 4680 4740 ttgggaggct gaggcaggca gatcacttga ggtcaggagt ttgagaccag cctggccaac 4800 atggcgaaat cctgtctcta ctaaaaatac aaaaattagc caggcgtggt ggcacgtgcc 4860 tgtaatccca gcttcttggg aggctgagat gggagaatca cttgaaccct aggggcgggg 4920 gttgcagtga actcagatca cgccactaca ctccagcctg ggcaacagag ccagactccg 4980 tctcaaaaaa aaaaaaaaaa gaaaagaaaa gaaaaataaa gtgaaggcaa aggtgagatt 5040 agtttagtga taccaaacgt gggttaactt cagaaagcac caggtcaagt gttgttttgt tttgttgttc gatagcattc cagaccctaa ccccagagga ttttttttag caggtctagc 5100 5160 tagggaccag aaatccaaat ttgttttgga aaagcttccc aggtatcagt ggttgcctgg 5220 gaaattaagg ataaaaagaa agactgatgt ttttcttttt accattttaa actgtttgaa ttatttttta catgactcat acaaatcaaa ggtctggtta gttactgtaa tacaaaatgt 5280 gctgagttgt acagtacaaa atgtgttctc tcaaatcctt gctttatgtg ggtcctcaaa 5340 5400 ttaattaggt acagaaattt gttaagccaa gatatacttc tggaatgatt gtctgagata tcagatttca gcctgattac atgatagagt aattaaaaac tgaattaatt atattttaca 5460 5520 ttattagatt taatagaact ttcagatttc tggaaactaa cactgtataa atatgtaaat atgtaatccc agtaaccttt cttagagtaa ctgaatgtca tttgggtagt agacaaattc 5580 tgtttatttc attgcccttt tactttcaga aactaagtta ttaaagcaca aactgtatgc 5640 5700 acaaatgagg ggaaattgaa atgcaaacct caatgaagag acatttttgt gctaaaattc ctaattacat aagttattta caaaaacatt cttgatttat ggtgttccaa aatttccctt 5760 aaagcactga gttattaaaa cttcccacag tatggccagg catggtggct catgcctata 5820 5880 atcccagcac tttgggaggc caaggcagaa ggatcatttg agcttaggag gtcaaggcta ccatgaacta tgatcgtgcc actgctctcc agcctgggta acagagcaaa accttgtctc 5940 taaaaaataa aaataaggcc gggtgcattg gcttatgctt gtgatcccag cactttggga 6000 ggctgaggcg ggtggatcac ctgagatcag gagttcgaga ccagtctgac caatgtggtg 6060 aaaccccatc tctactaaaa ttataaaaat tagctgggcg tgatggtgtg cacctgtaat 6120 cccagctact caggaggccg aggcaggaga atcgctggaa cccaggaggc ggaggttgcg 6180 gtgagccaag attgcgccac tgcactccag cctgggtgac agagcgagac tccatctcaa 6240 aaaaataaat aaataaataa ctttccacgg tatgagtcta tgttctatag aaatattgca 6300 tttgcacaga ggtaaatgta aagggatgtt tgcagcacca ttgtttataa tagagaaaag 6360 ttgtcagcaa cctcagtata tgccaattat ggtaaacaca taattgaata ctgtgcaacc 6420 attacataga ttgtagatga tctgtatata cagcgtcaaa aggtgtttgt gataaacaga 6480 gttaaaaaaa agcaagttat ggaatagtgt gtacatctgt gttggttaga aaagcagaaa 6540 agtataagct catagaaaaa tatatggcca acgtgttggc ttatgcccgt aatcccagca 6600 6660 cttttggagg ccaaggcaag cagatcacct gagccctggt gttcgagacc agcctgggca acgtggcgaa accctatctc caccaaaaaa tatacgtatt aatataaaa gctagccagg 6720 tgtggtggtg catgcctgta gtcccagcta ctcgggaggc tgagatggga gagttacttg 6780 agcccgtgaa acagaggttg cagtgaccca aggtggagcc attgcactcc cagcctgggc 6840 gacagagcga gactgtgtct caaaacaaaa caaaaaaata cttggtaggt taagaacaaa 6900 gtgtttatag gttttctgtg tgtgcctgaa ggaaagaata aggtgaaaga cttttactgt 6960 aagtottagt ggtttggotg attttttat ctacctaata cttgcttttt tttcttcca 7020 tagcattata gccttcagaa aggccaacaa agtgggtatt ttcatcaaag ttacaccaca 7080 gcgtgaggag ggtgaagtga ccgtgtgctt caagatgaag catgatttta aaaacctggc 7140 agccccatt cgccccattg aagaaagtga ccagggaaca gaagtcatct ggctcaccca 7200 gcatgtggaa cttagcttgg gcccacttct tccttaaaag gttccactgg agggcagatc 7260 7320 ccaaaggaca gtatcaccgt aaacctgcgt taaaatgtgg aagctgctgc ttcattaggc 7380 cttgtttata acgatgtacc catgcactac ggaattctat tgctaagaaa gtgggagcat 7440 aggcaggcat tgggaacaca gggtagctgc tgttgctctt gctctcaccc ctgttgacac 7500 cagtaagtct gtgtctccct cactgaaccc tgcacgttga gtaacagcag cataattcca 7560 tcctaggaaa ggggatgggt gttccttgga atggcattgt atttaccacc tgagaaactc 7620 tgtactgtct cttgatctga tctcactaag gatcacaatg tcacagatga aacttaaatg ataacccaaa ggtagacctg ctgttaatga tccagcattg gtcacaatgt accaactgct 7680

```
ttctgcattc cgttaaatat catctaacag tctaaaacat atcccttcat tgccataatg
                                                                     7740
                                                                     7800
gctgccattt tgccatagat ttccatataa ctgaaaaact gaattgtcac tttatcttta
                                                                     7860
gtatcatgat gattggaaaa acctgtgaag ttgttaaggc actctcattt gccctctttt
                                                                     7920
tctaagtgaa tacaggacac gtattagttg ttcttaattt ttttcccagt aaaatatgga
                                                                     7980
tcttttaaga agaatttgag aagcaaacaa ttacatgtca tgtcaagggg gtagcagatt
                                                                     8040
ccattcgttt tcaatattgc cacaataccc agggattaat gctgccacag gggggcaatc
                                                                     8100
tttatttgtc ttacttccta ccccttccct gttctgcctc tttaactcag ttaagttgtt
ctgtttggga cctggaaaag aacccaaaga aaacctgagt ggacaggttc atttctggaa
                                                                     8160
tgcagaaaac attttaaagg ctagattttt agaatattct caactagcat tctttccatt
                                                                     8220
gatttgaagg ggaaattaac tattataatc tcttgaatcc aaaactggat attaagaact
                                                                     8280
                                                                     8340
ttccccctta ctaagtttaa gacttttgtc atgtggtgag tcaaataaga ccattttgat
tgtaaaccat aaaatagttc agcaagtagc ccacagttct ggcctaacag cagacttgct
                                                                     8400
                                                                     8460
gttttcactt ggtatcctgg agttgggttg ctaaccttaa tttctatgat gttttctaaa
atgaaacttg ataaagtaga ccaccagctg caccgtgttt tctgtaaaag tattgttagt
                                                                     8520
aagtggccaa gagacttgag gaaaatacag attttttgtt taccttggtc ttgttttaag
                                                                     8580
tcttaaaaaa ttaaagataa cattataatg tagaatacag atgggacata gtccttgtaa
                                                                     8640
                                                                     8700
gcttcccttg aaaatgtttt aaatatttag gaagctttta aaagacacta aattgtactc
taaaagacac taaattgtac taattgtaca aaggtcaagc caattttatg aaacagtcct
                                                                     8760
acagagtaat atatgtgatg cagtgtaaga aggaaaatac tcatctctaa cattatggta
                                                                     8820
                                                                     8880
ataacattta gcctcttagg agttggagca gggggatggg taattacaga tttgcagact
atagaaagag tttcattttt ttgtgacccc acagagtctc aaatttttat ttcactacct
                                                                     8940
gctagagcct actgtgaaat cactgctcca tatttgccag tggaggaaat gggcatagag
                                                                     9000
                                                                     9060
tagagaatag cttcatatgt ttacacgttt gcatagacta cacacatgtc atgcgtttat
                                                                     9120
ggcaggtagc tggtatttat tccccaaagt aataatgttg aagtatgggt ctcatcattc
                                                                     9180
ccatacacag aaacacaaaa cactttgatc ataaactttt ttcttcagaa gccaaactaa
                                                                     9240
cttgcagaat aatagagcca ctggtttaat gtttcctcaa gataggtttt agtgtaagct
agtattctgt gtgttcgtag aaatgattca atacctgcag ctggtgaatt aggaattgta
                                                                     9300
                                                                     9360
tttgttgcct tttttatatt agatgaggtg caaaaatttt aatgctagtc agtatgcacc
                                                                     9420
accacaggaa agttagatcc cattagcact tgaaactaca gctttggaaa cttaggctaa
                                                                     9480
gttaatttgg atttgttact tgattcacct actgaccttt tcttttgttt gaagtgctta
                                                                     9540
tcagcataat gagctaagtg tcatgcatat ttgtgaagaa acaccctttt tggtcccttt
tgggacagag aggtactcct tgatctttat gaatgacagg ttactgtttt gccttattgc
                                                                     9600
ttaacttaat gtagtgaaat aaagcagaca aagcttgagc gtgtcttttg tttgctctca
                                                                     9660
                                                                     9720
tgtagatact aagtagcatg gctcagagcc aaaagacaag cgtgaagtta agagagttgg
ctaagagagt tggtggggca tgctcccttc cattccttaa atgaagtaat ctaaaatctc
                                                                     9780
                                                                     9840
ttagcaggtt agttcaccat aatatataag tagatgttgc tttgagcttc ttatatacat
                                                                     9878
attcacagaa ccattatata aatgttgtta gacctcta
<210> 12918
<211> 676
<212> DNA
<213> Homo sapiens
<400> 12918
                                                                       60
actgttcctt ccctcctctt acttagatga attattcata ctcttcctgt tggaacccag
ccccacctct taacactgaa gctcatcctc ttacctattc acagatagca tcggcagctc
                                                                      120
cctccttccc ttttccatta gcatgtgatt tctctcatct taaaaaagaa attggcctca
                                                                      180
ctctcctctt cagctgccac tccatttctc cactccctgt acagcaaaac tcctctaact
                                                                      240
ctgactgggc atgatcgctc acacctgtaa tcccagcgct ttaggaggcc gaggtgagag
                                                                      300
                                                                      360
gatgatttga ggccaggagt ttgagacaag actggaaaac ctaacaagac cttgtctctg
tttaagtaaa agttttttaa aaaacaaaaa tggccaggtg cggtggctca cacctgtaat
                                                                      420
                                                                      480
cccagcactt tgggaggctg aggcgggcag atcacgaggt caggagatcg agaccatcct
ggctaacaag gtgaaatccc gtctctacta aaaataataa aaaaaattag ccgggcctgg
                                                                      540
tggcaggtgc ctgtagtccc agctactctc gaggctgagg caggagaatg gcgtgaacct
                                                                      600
gggaggcgga gcttgcagtg agccaagatc acgccacggc actccagcct gggcagcaga
                                                                      660
                                                                      676
gcgagactcc gtctca
```

<210> 12919 <211> 514

```
<212> DNA
<213> Homo sapiens
<400> 12919
                                                                       60
actottcctt ccctcctctt acttagatga attattcata ctcttcctgt tggaacccag
                                                                      120
ccccacctct taacactcaa gctcatcctc ttacctattc acagatagca tcggcagctc
cctccttccc ttttccatta gcatgtgatt tctctcatct taaaaaagaa attggcctca
                                                                      180
ctctcctctt cagctgccac tccatttctc cactccctgt acagcaaaac tcctctaact
                                                                      240
ctgactgggc atgatcgctc acacctgtaa tcccagcgct ttaggaggcc gaggtgagag
                                                                      300
gatcatttga ggccaggagt ttgagacaag actggaaaac ctaacaagac cttgtctctg
                                                                      360
tttaagtaaa agttttttaa aaaacaaaaa tggccaggtg cggtggctca cacctgtaat
                                                                      420
cccagcactt tgggaggctg aggcgggcag atcacgaggt caggagatcg agaccatcct
                                                                      480
                                                                      514
ggctaacaag gtgaaatccc gtctctacta aaaa
<210> 12920
<211> 676
<212> DNA
<213> Homo sapiens
<400> 12920
                                                                       60
actgttcctt ccctcctctt acttagatga attattcata ctcttcctgt tggaacccag
                                                                      120
ccccacctct taacactgaa gctcatcctc ttacctattc acagatagca tcggcagctc
                                                                      180
cctccttccc ttttccatta gcatgtgatt tctctcatct taaaaaagaa attggcctca
                                                                      240
ctctcctctt cagctgccac tccatttctc cactccctgt acagcaaaac tcctctaact
                                                                      300
ctgactgggc atgatcgctc acacctgtaa tcccagcgct ttaggaggcc gaggtgagag
gatgatttga ggccaggagt ttgagacaag actggaaaac ctaacaagac cttgtctctg
                                                                      360
                                                                      420
tttaagtaaa agttttttaa aaaacaaaaa tggccaggtg cggtggctca cacctgtaat
                                                                      480
cccagcactt tgggaggctg aggcgggcag atcacgaggt caggagatcg agaccatcct
ggctaacaag gtgaaatccc gtctctacta aaaataataa aaaaaattag ccgggcctgg
                                                                      540
                                                                      600
tggcaggtgc ctgtagtccc agctactctc gaggctgagg caggagaatg gcgtgaacct
gggaggcgga gcttgcagtg agccaagatc acgccacggc actccagcct gggcagcaga
                                                                      660
                                                                      676
gcgagactcc gtctca
<210> 12921
<211> 947
<212> DNA
<213> Homo sapiens
<400> 12921
                                                                       60
agtttatatc agtttcactt caatttttta gggttgcata atttgccaca attttcatca
                                                                      120
gatattttgg aatgatgtag cagaatacat caagaaaatc tccagttctt ttgacaattt
ttgttagagc tttttgattc ttaccctcat ggaaatactt gtgtataaat atagaaaatc
                                                                      180
                                                                      240
tcagattaaa ttattttctt ggtagccttg cctgttccta ttaagccaca gaaaatatta
ataaggtgaa tatgttaact ttatttttca aattattgtt aatctcagca tactatgaag
                                                                      300
aacatgaatg tactgtacac acaaacaact tgatgtctca ctaaatgaaa gacacatgtg
                                                                      360
cattagatcc atctaccttt caggcacagt catggggttt ttaactccac aacattaact
                                                                      420
ggaattgtgg aatacagata agatcataat tgcaaagatg tgatattccc tgaagaattt
                                                                      480
                                                                      540
tttatctatg atcaaaatgc aaaaaattta atgtgttatg gtaatgttcc ttattatcca
tgattaagtc acaccaaaat ggcacaaaga ccaggaaacc agccaagcat tcactggagg
                                                                       600
                                                                       660
cattactcag tgtctgagag attcagttga tttatatgaa ttaaggaata ttttactatc
                                                                       720
tagtatgtat catttaaaat aaaacaaacc ttctaaagat gataattgta aacatttgaa
ttgtgttttt aattggaaaa gtaatgagct tgtactgtta agctgtttct tattttatgt
                                                                       780
tctatgcttt cacaatttac atttacttac ttgtaaattg tgttatctga agaattttt
                                                                       840
ccatatctga tgtctgcata actccggaat attgttagac atttaatagg aacctaatta
                                                                       900
taaaacaaat ttatttacta tgtatgccat taaaaacatt acaatta
                                                                       947
```

<210> 12922 <211> 947

```
<212> DNA
<213> Homo sapiens
<400> 12922
                                                                       60
agtttatatc agtttcactt caatttttta gggttgcata atttgccaca attttcatca
                                                                      120
gatattttgg aatgatgtag cagaatacat caagaaaatc tccagttctt ttgacaattt
                                                                      180
ttqttagagc tttttgattc ttaccctcat ggaaatactt gtgtataaat atagaaaatc
tcagattaaa ttatttctt ggtagccttg cctgttccta ttaagccaca gaaaatatta
                                                                      240
                                                                      300
ataaggtgaa tatgttaact ttatttttca aattattgtt aatctcagca tactatgaag
aacatgaatg tactgtacac acaaacaact tgatgtctca ctaaatgaaa gacacatgtg
                                                                      360
cattagatcc atctaccttt caggcacagt catggggttt ttaactccac aacattaact
                                                                      420
ggaattgtgg aatacagata agatcataat tgcaaagatg tgatattccc tgaagaattt
                                                                      480
tttatctatg atcaaaatgc aaaaaattta atgtgttatg gtaatgttcc ttattatcca
                                                                      540
tgattaagtc acaccaaaat ggcacaaaga ccaggaaacc agccaagcat tcactggagg
                                                                      600
cattactcag tgtctgagag attcagttga tttatatgaa ttaaggaata ttttactatc
                                                                      660
tagtatgtat catttaaaat aaaacaaacc ttctaaagat gataattgta aacatttgaa
                                                                      720
ttgtgttttt aattggaaaa gtaatgagct tgtactgtta agctgtttct tattttatgt
                                                                      780
tctatgcttt cacaatttac atttacttac ttgtaaattg tgttatctga agaatttttt
                                                                      840
                                                                      900
ccatatctga tgtctgcata actccggaat attgttagac atttaatagg aacctaatta
                                                                      947
taaaacaaat ttatttacta tgtatgccat taaaaacatt acaatta
<210> 12923
<211> 949
<212> DNA
<213> Homo sapiens
<400> 12923
                                                                       60
agtttatatc agtttcactt caatttttta gggttgcata atttgccaca attttcatca
                                                                      120
gatattttgg aatgatgtag cagaatacat caagaaaatc tccagttctt ttgacaattt
                                                                      180
ttgttagagc tttttgattc ttaccctcat ggaaatactt gtgtataaat atagaaaatc
                                                                      240
tcagtattaa attatttct tggtagcctt gcctgttcct attaagccac agaaaatatt
aataaggtga atatgttaac tttattttc aaattattgt aatctcagca tactatgaag
                                                                      300
aacatgaatg tagcggaaca cactatacaa cttgatgtct cactaaagga aagacacatg
                                                                      360
tgcattagat ccatctacct ttcaggcaca gtcatggggt ttttaactcc acaacattaa
                                                                      420
                                                                      480
ctggaattgt ggaatacaga taagatcata attgcaaaga tgtgatattc cctgaagaat
                                                                      540
tttttatcta tgatcaaaat gcaaaaaatt taatgtgtta tggtaatgtt ccttattatc
catgattaag tcacaccaaa atggcacaaa gaccaggaaa ccagccaagc attcactgga
                                                                      600
ggcattactc agtgtctgag agattcagtt gatttatatg aattaaggaa tattttacta
                                                                      660
                                                                      720
tctagtatgt atcatttaaa ataaaacaaa ccttctaaag atgataattg taaacatttg
                                                                      780
aattgtgttt ttaattggaa aagtaatgag cttgtactgt taagctgttt cttattttat
                                                                      840
gttctatgct ttcacaattt acatttactt acttgtaaat tgtgttatct gaagaatttt
                                                                      900
ttccatatct gatgtctgca taactccgga atattgttag acatttaata ggaacctaat
tataaaacaa atttatttac tatgtatgcc attaaaaaca ttacaatta
                                                                      949
<210> 12924
<211> 4152
<212> DNA
<213> Homo sapiens
<400> 12924
                                                                       60
aaataaaaac cactcctagg aagaaactgc atcaactaac gagcaaaatc accagctaac
                                                                      120
atcataatga caggttcaaa ttcacacata acaatattaa ctttaaatat aaatggacaa
aattctgcaa ttaaaagaca cagactggca agttggataa agagtcaaga cccatcagtg
                                                                      180
                                                                      240
tgctgtattc aggaaaccca tctcacgtgc agagacacac ataggctcaa aataaaagga
                                                                      300
tggagaaaga tctaccaagc caatggaaaa caaaaaaagg caggggttgc aatcctagtc
tctgataaaa cagattttaa accaacaaag atcaaaagag acaaagaagg ccattacata
                                                                      360
atggtaaagg gatcaattca acaagaggag ctaactatcc taaatattta tgcacccaat
                                                                      420
                                                                      480
acaggagcac ccagattcat aaagcaagtc ctgagtgacc tacaaagaga cttagactcc
cacacattaa taatgggaga ctttaacacc ccactgtcaa cattagacag aacaacgaga
                                                                      540
```

600 cagaaagtca acaaggatac ccaggaattg aactcagctc tgcaccaagc ggacctaata gacatctaca gaactctcca ccccaaatca acagaatata cattttttc agcaccacac 660 720 cacacctatt ccaaaattga ccacatagtt ggaagtaaag ctctcctcag caaatgtaaa 780 agaacagaaa ttataacaaa ctatctctca gaccacagtg caatcaaact agaactcagg 840 attaataatc tcactcaaag ccgctcaact acatggaaac tgaacaacct gctcctgaat 900 gactactggg tacataacga aatgaaggca gaaataaaga tgttctttga aaccaacgag 960 aacaaagaca ccacatacca gaatctctgg gacgcattca aagcagtgtg tagagggaaa tttatagcac taaatgccta caagagaaag caggaaagat ccaaaattga caccctaaca 1020 tcacaattaa aagaactaga aaagcaagag caaacacatt caaaatctag cagaaggcaa 1080 gaaataacta aaatcagagc agaactgaag gaaatagaga cacaaaaaaa ccttcaaaaa 1140 1200 atcaatgaat ccaggagctg gttttttgaa aggatcaaca aaattgatag accgctagca 1260 agactaataa agaaaaaaag agagaagaat caaatagaca caataaaaaa tgataaaggg 1320 gatatcacca ccgatcccac agaaatacaa actaccatca gagaatacta caaacacctc tacgcaaata aactagaaaa tctagaagaa atggatacat tcctcgacac atacactctc 1380 1440 ccaagactaa accaggaaga agttgaatct ctgaatagac caataacagg ctctgaaatt 1500 gtggcaataa tcaatagttt accaaccaaa aagagtccag gaccagatgg attcacagcc 1560 gaattctacc agaggtacaa ggaggaactg gtaccattcc ttctgaaact attccaatca atagaaaaag agggaatcct ccctaactca ttttatgagg ccagcatcat tctgatacca 1620 aagccgggca gagacacaac caaaaaagag aattttagac caatatcctt gatgaacatt 1680 1740 gatgcaaaaa tcctcaataa aatactggca aaccgaatcc agcagcacat caaaaagctt atccaccatg atcaagtggg cttcatccct gggatgcaag gctggttcag tatacgcaaa 1800 tcaataaatg taatccagca tataaacaga gccaaagaca aaaaccacat gattatctca 1860 atagttgcag aaaaagcctt tgacaaaatt caacaacgct tcatgctaaa aactctcaat 1920 1980 gaattaggtg ttgatgggac gtatttcaaa ataataagag ctatctatga caaacccaca 2040 gccaatatca tactggatgg gcaaaaactg gaagcattcc ctttgaaaac tggcacaaga 2100 cagggatgcc ctctctcacc actcctattc aacatagtgt tggaagttct ggccagggca ataaggcagg agaaggaaat aaagggtatt caattaggaa aagaggaagt caaattgtcc 2160 ctgtttgcag acgacatgat tgtttatcta gaaaacccca tcgtctcagc ccaaaatctc 2220 cttaagctga taagcaactt cagcaaagtc tcaggataca aaatcaatgt acaaaaatca 2280 2340 caagcattct tatacaccaa caacagacaa acagagagcc aaatcatgag taaactccca 2400 ttcacaattg cttcaaagag aataaaatac ctaggaatcc aacttacaag ggatgtgaag gacctcttca aggagaacta caaaccactg ctcaaggaaa taaaagagga cacaaacaaa 2460 tggaagaaca ttccatgctc atgggtagga agaatcaata tcgtgaaaat ggccatactg 2520 cccaaggtaa tttacagatt caatgccatc cccatcaagc taccaatgac tttcttcaca 2580 gaattggaaa aaactacttt aaagttcata tggaaccaaa aaagagcccg catcgccaag 2640 tcaatcctaa gccaaaagaa caaagctgga ggcatcacac tacctgactt caaactatac 2700 tacaaggcta cagtaaccaa aacagcatgg tactggtacc aaaacagaga tatagatcaa 2760 tggaacagaa cagaaccctc agaaataatg ccgcatatct acaactatct gatctttgac 2820 aaacctgaga aaaacaggca atggggaaag gattccctat ttaataaatg gtgctgggaa 2880 aactggctag ccatatgtag aaagctgaaa ctggatccct tccttacacc ttatacaaaa 2940 atcaattcaa gatggattaa agatttaaac gttagaccta aaaccataaa aaccctagaa 3000 gaaaacctag gcattaccat tcaggacata ggcgtgggca aggacttcat gtccaaaaca 3060 3120 ccaaaagcaa tggcaacaaa agccaaaatt gacaaatggg atctaattaa actaaagagc 3180 ttctgcacag caaaagaaac taccatcaga gtgaacaggc aacctacaac atgggagaaa attttcgcaa cctactcatc tgacaaaggg ctaatatcca gaatctacaa tgaactcaaa 3240 caaatttaca agaaaaaaac aaacaacccc atcaaaaagt gggcgaagga catgaacaga 3300 cacttctcaa aagaagacat ttatgcagcc aaaaaacaca tgaaaaaatg ctcatcatca 3360 ctggccatca gagaaatgca aatcaaaacc actatgagat atcatctcac accagttaga 3420 atggcaatca ttaaaaagtc aggaaacaac aggtgctgga gaggttgtgg agaaatagga 3480 acacttttac actgttggtg ggactgtaaa ctagttcaac cattgtggaa gtcattgtgg 3540 cgattcctca gggatctaga actagaaata ccatttgacc cagccatccc attactgggt 3600 atatacccaa atgactataa atcatgctgc tataaagaca catgcacacg tatgtttatt 3660 gcggcattat tcacaatagc aaagacttgg aaccaaccca aatgtccaac aatgatagtc 3720 3780 tggattaaga aaatgtggca catatacacc atggaatact atgcagccat aaataatgat gagttcatgt cctttgtagg gacatggatg aaattggaaa ccatcattct cagtaaacta 3840 3900 tcgcaagaac aaaaaaccaa acaccgcata ttctcactca taggtgggaa ttgaacaatg agatcacatg gacacaggaa ggggaatatc acactctggg gactgttgtg gggtcggggg 3960 4020 aggggggagg gatagcattg ggagatatac ctaatgatag atgacacgtt agtgggtgca 4080 gcgcaccagc atgggcacat gtatacatat gtaactaacc tgcacaatgt gcacatgtac 4140 4152 aaaagaaata aa

<210> 12925 <211> 4152

```
<212> DNA
<213> Homo sapiens
<400> 12925
aaataaaaac cactcctagg aagaaactgc atcaactaac gagcaaaatc accagctaac
                                                                       60
atcataatga caggttcaaa ttcacacata acaatattaa ctttaaatat aaatggacaa
                                                                      120
aattctgcaa ttaaaagaca cagactggca agttggataa agagtcaaga cccatcagtg
                                                                      180
                                                                      240
tgctgtattc aggaaaccca tctcacgtgc agagacacac ataggctcaa aataaaagga
                                                                      300
tggagaaaga tctaccaagc caatggaaaa caaaaaaagg caggggttgc aatcctagtc
                                                                      360
tctgataaaa cagattttaa accaacaaag atcaaaagag acaaagaagg ccattacata
atggtaaagg gatcaattca acaagaggag ctaactatcc taaatattta tgcacccaat
                                                                      420
acaggagcac ccagattcat aaagcaagtc ctgagtgacc tacaaagaga cttagactcc
                                                                      480
                                                                      540
cacacattaa taatgggaga ctttaacacc ccactgtcaa cattagacag aacaacgaga
                                                                      600
cagaaagtca acaaggatac ccaggaattg aactcagctc tgcaccaagc ggacctaata
                                                                      660
gacatctaca gaactctcca ccccaaatca acagaatata cattttttc agcaccacac
                                                                      720
cacacctatt ccaaaattga ccacatagtt ggaagtaaag ctctcctcag caaatgtaaa
                                                                      780
agaacagaaa ttataacaaa ctatctctca gaccacagtg caatcaaact agaactcagg
attaataatc tcactcaaag ccgctcaact acatggaaac tgaacaacct gctcctgaat
                                                                      840
                                                                      900
gactactggg tacataacga aatgaaggca gaaataaaga tgttctttga aaccaacgag
                                                                      960
aacaaagaca ccacatacca gaatctctgg gacgcattca aagcagtgtg tagagggaaa
                                                                     1020
tttatagcac taaatgccta caagagaaag caggaaagat ccaaaattga caccctaaca
                                                                     1080
tcacaattaa aagaactaga aaagcaagag caaacacatt caaaatctag cagaaggcaa
                                                                     1140
gaaataacta aaatcagagc agaactgaag gaaatagaga cacaaaaaac ccttcaaaaa
                                                                     1200
atcaatgaat ccaggagctg gttttttgaa aggatcaaca aaattgatag accgctagca
                                                                     1260
agactaataa agaaaaaaag agagaagaat caaatagaca caataaaaaa tgataaaggg
gatatcacca ccgatcccac agaaatacaa actaccatca gagaatacta caaacacctc
                                                                     1320
tacgcaaata aactagaaaa totagaagaa atggatacat tootogacac atacactoto
                                                                     1380
ccaagactaa accaggaaga agttgaatct ctgaatagac caataacagg ctctgaaatt
                                                                     1440
gtggcaataa tcaatagttt accaaccaaa aagagtccag gaccagatgg attcacagcc
                                                                     1500
gaattctacc agaggtacaa ggaggaactg gtaccattcc ttctgaaact attccaatca
                                                                     1560
atagaaaaag agggaatcct ccctaactca ttttatgagg ccagcatcat tctgatacca
                                                                     1620
aagccgggca gagacacaac caaaaaagag aattttagac caatatcctt gatgaacatt
                                                                     1680
gatgcaaaaa tcctcaataa aatactggca aaccgaatcc agcagcacat caaaaagctt
                                                                     1740
atccaccatg atcaagtggg cttcatccct gggatgcaag gctggttcag tatacgcaaa
                                                                     1800
tcaataaatg taatccagca tataaacaga gccaaagaca aaaaccacat gattatctca
                                                                     1860
atagttgcag aaaaagcctt tgacaaaatt caacaacgct tcatgctaaa aactctcaat
                                                                     1920
                                                                     1980
gaattaggtg ttgatgggac gtatttcaaa ataataagag ctatctatga caaacccaca
                                                                     2040
gccaatatca tactggatgg gcaaaaactg gaagcattcc ctttgaaaac tggcacaaga
                                                                      2100
cagggatgcc ctctctcacc actcctattc aacatagtgt tggaagttct ggccagggca
ataaggcagg agaaggaaat aaagggtatt caattaggaa aagaggaagt caaattgtcc
                                                                      2160
                                                                     2220
ctgtttgcag acgacatgat tgtttatcta gaaaacccca tcgtctcagc ccaaaatctc
cttaagctga taagcaactt cagcaaagtc tcaggataca aaatcaatgt acaaaaatca
                                                                     2280
caagcattct tatacaccaa caacagacaa acagagagcc aaatcatgag taaactccca
                                                                      2340
ttcacaattg cttcaaagag aataaaatac ctaggaatcc aacttacaag ggatgtgaag
                                                                      2400
gacctcttca aggagaacta caaaccactg ctcaaggaaa taaaagagga cacaaacaaa
                                                                      2460
tggaagaaca ttccatgctc atgggtagga agaatcaata tcgtgaaaat ggccatactg
                                                                      2520
cccaaggtaa tttacagatt caatgccatc cccatcaagc taccaatgac tttcttcaca
                                                                      2580
gaattggaaa aaactacttt aaagttcata tggaaccaaa aaagagcccg catcgccaag
                                                                      2640
tcaatcctaa gccaaaagaa caaagctgga ggcatcacac tacctgactt caaactatac
                                                                      2700
                                                                      2760
tacaaggcta cagtaaccaa aacagcatgg tactggtacc aaaacagaga tatagatcaa
tggaacagaa cagaaccctc agaaataatg ccgcatatct acaactatct gatctttgac
                                                                      2820
aaacctgaga aaaacaggca atggggaaag gattccctat ttaataaatg gtgctgggaa
                                                                      2880
aactggctag ccatatgtag aaagctgaaa ctggatccct tccttacacc ttatacaaaa
                                                                      2940
atcaattcaa gatggattaa agatttaaac gttagaccta aaaccataaa aaccctagaa
                                                                      3000
gaaaacctag gcattaccat tcaggacata ggcgtgggca aggacttcat gtccaaaaca
                                                                      3060
                                                                      3120
ccaaaagcaa tggcaacaaa agccaaaatt gacaaatggg atctaattaa actaaagagc
ttctgcacag caaaagaaac taccatcaga gtgaacaggc aacctacaac atgggagaaa
                                                                      3180
```

```
3240
attttcgcaa cctactcatc tgacaaaggg ctaatatcca gaatctacaa tgaactcaaa
caaatttaca agaaaaaaac aaacaacccc atcaaaaagt gggcgaagga catgaacaga
                                                                 3300
                                                                 3360
cacttctcaa aagaagacat ttatgcagcc aaaaaacaca tgaaaaaatg ctcatcatca
ctggccatca gagaaatgca aatcaaaacc actatgagat atcatctcac accagttaga
                                                                 3420
atggcaatca ttaaaaagtc aggaaacaac aggtgctgga gaggttgtgg agaaatagga
                                                                 3480
acacttttac actgttggtg ggactgtaaa ctagttcaac cattgtggaa gtcattgtgg
                                                                 3540
cgattcctca gggatctaga actagaaata ccatttgacc cagccatccc attactgggt
                                                                 3600
                                                                 3660
atatacccaa atgactataa atcatgctgc tataaagaca catgcacacg tatgtttatt
                                                                 3720
gcggcattat tcacaatagc aaagacttgg aaccaaccca aatgtccaac aatgatagtc
tggattaaga aaatgtggca catatacacc atggaatact atgcagccat aaataatgat
                                                                 3780
gagttcatgt cctttgtagg gacatggatg aaattggaaa ccatcattct cagtaaacta
                                                                 3840
                                                                 3900
tcgcaagaac aaaaaaccaa acaccgcata ttctcactca taggtgggaa ttgaacaatg
agatcacatg gacacaggaa ggggaatatc acactctggg gactgttgtg gggtcggggg
                                                                 3960
aggggggagg gatagcattg ggagatatac ctaatgatag atgacacgtt agtgggtgca
                                                                 4020
                                                                 4080
gcgcaccagc atggcacatg tatacatatg taactaacct gcacaatgtg cacatgtacc
                                                                 4140
4152
aaagaaataa aa
```

<210> 12926 <211> 2788

<212> DNA

<213> Homo sapiens

<400> 12926

60 tacattecte gacacataca eteteceaag actaaaceag gaagaagttg aatetetgaa tagaccaata acaggetetg aaattgtgge aataatcaat agtttaccaa ccaaaaagag 120 tccaggacca gatggattca cagccgaatt ctaccagagg tacaaggagg aactggtacc 180 attccttctg aaactattcc aatcaataga aaaagaggga atcctcccta actcatttta 240 tgaggccagc atcattctga taccaaagcc gggcagagac acaaccaaaa aagagaattt 300 tagaccaata tccttgatga acattgatgc aaaaatcctc aataaaatac tggcaaaccg 360 420 aatccagcag cacatcaaaa agcttatcca ccatgatcaa gtgggcttca tccctgggat 480 gcaaggctgg ttcagtatac gcaaatcaat aaatgtaatc cagcatataa acagagccaa 540 agacaaaaac cacatgatta tctcaatagt tgcagaaaaa gcctttgaca aaattcaaca acgcttcatg ctaaaaaactc tcaatgaatt aggtgttgat gggacgtatt tcaaaaataat 600 aagagctatc tatgacaaac ccacagccaa tatcatactg gatgggcaaa aactggaagc 660 720 attccctttg aaaactggca caagacaggg atgccctctc tcaccactcc tattcaacat 780 agtgttggaa gttctggcca gggcaataag gcaggagaag gaaataaagg gtattcaatt 840 aggaaaagag gaagtcaaat tgtccctgtt tgcagacgac atgattgtta tctagaaaaa 900 ccccatcgtc tcagcccaaa atctccttaa gctgataagc aacttcagca aagtctcagg atacaaaatc aatgtacaaa aatcacaagc attcttatac accaacaaca gacaaacaga 960 1020 gagccaaatc atgagtaaac tcccattcac aattgcttca aagagaataa atacctagga 1080 atccaactta caagggatgt gaaggacctc ttcaaggaga actacaaacc actgctcaag 1140 gaaataaaag aggacacaaa caaatggaag aacattccat gctcatgggt aggaaaaatc 1200 aatatcgtga aaatggccat actgcccaag gtaatttaca gattcaatgc catccccatc 1260 aagctaccaa tgactttctt cacagaattg gaaaaaacta ctttaaagtt catatggaac caaaaaagag cccgcatcgc caagtcaatc ctaagccaaa agaacaaagc tggaggcatc 1320 1380 acactacctg acttcaaact atactgcaag gctacagaaa ccaaaacagc atggtactgg 1440 1500 atctacaact atctgatctt tgacaaacct gagaaaaaca ggcaatgggg aaaggattcc 1560 ctatttaata aatggtgctg ggaaaactgg ctagccatat gtagaaagct gaaactggat 1620 cccttcctta caccttatac aaaaatcaat tcaagatgga ttaaagattt aaacgttaga 1680 cctaaaacca taaaaaccct agaagaaaac ctaggcatta ccattcagga cataggcgtg 1740 ggcaaggact tcatgtccaa aacaccaaaa gcaatggcaa caaaagccaa aattgacaaa 1800 tgggatctaa ttaaactaaa gagcttctgc acagcaaaag aaactaccat cagagtgaac 1860 aggcaaccta caacatggga gaaaattttc gcaacctact catctgacaa agggctaata 1920 tccaqaatct acaatgaact caaacaaatt tacaagaaaa aaacaaacaa ccccatcaaa 1980 aagtgggcga aggacatgaa cagacacttc tcaaaagaag acatttatgc agccaaaaaa 2040 cacatgaaaa aatgctcatc atcactggcc atcagagaaa tgcaaatcaa aaccactatg 2100 agatatcatc tcacaccagt tagaatggca atcattaaaa agtcaggaaa caacaggtgc 2160 tggagaggtt gtggagaaat aggaacactt ttacactgtt ggtgggactg taaactagtt

```
caaccattgt ggaagtcatt gtggcgattc ctcagggatc tagaactaga aataccattt
gacccagcca tcccattact gggtatatac ccaaatgact ataaatcatg ctgctataaa
                                                                    2280
                                                                    2340
gacacatgca cacgtatgtt tattgcggca ttattcacaa tagcaaagac ttggaaccaa
cccaaatgtc caacaatgat agtctggatt aagaaaatgt ggcacatata caccatggaa
                                                                    2400
                                                                    2460
tactatgcag ccataaataa tgatgagttc atgtcctttg tagggacatg gatgaaattg
gaaaccatca ttctcagtaa actatcgcaa gaacaaaaaa ccaaacaccg catattctca
                                                                    2520
ctcataggtg ggaattgaac aatgagatca catggacaca ggaaggggaa tatcacactc
                                                                    2580
tggggactgt tgtggggtcg gggagggggg agggatagca ttgggagata tacctaatga
                                                                    2640
                                                                    2700
tagatgacac gttagtgggt gcagcgcacc agcatgtgca catgtataca tatgttactt
acctgcacaa tgtgcacatg gtaccctaaa acttaaagta taataaaaaa taaaaaataa
                                                                    2760
                                                                    2788
aaaaataata aaaaaaataaa aaaaaaaa
<210> 12927
<211> 6074
<212> DNA
<213> Homo sapiens
<400> 12927
                                                                      60
gattctccag aacttagggc ctagagatag caaacccgaa ttccaaaatg tctctgctac
                                                                     120
ttatcaaccg tatgtggcct tgggtaagta ctgaacctct tttggcttca gcttcatcat
ttatgtggga attcagctcc acatagattc tctgatctcc tgtgattcac catgctccag
                                                                     180
gtaagggact gggccacaga gatgagcagg agaaggcctt gccttcgggt ctgcctttta
                                                                     240
                                                                     300
aaggcaagtg agcaggtcct tactcctaat ggtcgctgtg atgactgctg cacaagacca
                                                                     360
ctggcctcgc cctcactgac cccatggggg agtcaggaga atcagatgca gaagcttgca
                                                                     420
gaatgccaga gcttcacata tggaggctat tactgtcgtc attataacca taaccctctg
caggtcagcc cggtaataag aggacagaaa aaatactggg ggctggtcta atttctgagt
                                                                     480
tgacaaatgc taatgcaact tgatagttac tatttaattc ccaagagttt gagagatttt
                                                                     540
aagtatattt tacttaaatg ttggattact gcaaccccca aattatttca ggtgcatgta
                                                                     600
                                                                     660
ttaaattagg cttttcatct cgcactgtag gtggctgagt ttgtacagtc tcttctgggc
                                                                     720
tgtgaagagc atgccaagtg ctttaagaaa gaggtaagag atgcaaaaat tatatata
780
tatttctata cttctagacc cagaagtgtt ttgttttcat ttacttaagt gtaaataagt
                                                                     840
acaatttggg ggcagcaaga caaaggagat ccagcaggaa tagagcccaa ttatgcagtg
                                                                     900
tgagaccaag ctgggtcagt ctccgccttc agtcctctta cattttgcta ggttttgttg
                                                                     960
cagaatgcca tggtgcttgg tgcatacagc atgctcagta cgtatactat ttgctggaag
                                                                    1020
agtaaatgaa aaagataatt aattaatacc tatcagtgtc atgaggcctc tccattggtg
                                                                    1080
gcttgaagcc atttgcggga aggcaggaat cctcccttgg gattgcacct gggaaagatt
                                                                    1140
ggggatttgt ctactccaaa gtcagcatgg gaccctccta tctatccctg ccctgcattt
                                                                    1200
gcttccagag cagccccaaa tccttctacg gggtttctat ctcctgtccc ctcttggttg
                                                                    1260
ggaatgtact gaactgcttc gcatatttcc tggaattagt atccatagct ataggggccc
                                                                    1320
cggaagagac tggaccagct acagaatgat gcacatacta atcccagtgc ttgtgtatca
                                                                    1380
                                                                    1440
ggggcttgcc atgtgccagg catggtgcta agcattttac aaccattatc ctttgatcct
tgtgacaaca ctacaatggc agcttaccga tgaagaagct caggcccagg aaggtgaggc
                                                                    1500
agagcaagaa aagggcaaga aaagtcggat tccagctcat atccatctga gagctcagag
                                                                    1560
cctccatcgc tgctctagaa ctttccaaga aaaccatcct catagaaact gaaaggcagc
                                                                    1620
acatacetet ecctetetea ggtteagage atgeatgagt taaggaagtg etgagttttg
                                                                    1680
ggttctggac ccctccgagc acagtagagg aactcagcat caaggtcaga tagcctcagt
                                                                    1740
                                                                    1800
ctgggtagct gctacctgtg gggttcgcct ggctctgcct gagctcagca tggcttgggc
atagttggcc acgttcacac atacagtcta ctctgcaggt agcgatgatc aaggcttgct
                                                                    1860
ttgtcctcaa gtctgtccac gtagggtaag agggagtggc tttttgcagg ttgaattgct
                                                                    1920
                                                                    1980
tatatttggc actcactgac cagtactgtc actttaggca gattgctgaa cccctcttat
ccctcctctc tgaaacacag atttacgaga ggggccctta aagattaggg tgagcatgtt
                                                                    2040
tgaagcaccg agccctgttc ttgtcccaaa gtaggggctt aataaaggca gcagtatata
                                                                    2100
gcagagggtc tcctctgggc tccaacaagc tctgccagaa atcccaactt tgccccttag
                                                                    2160
aagctgcatg agcttgggca agtcattaag cttgcaattc caggtttcct cacctatatt
                                                                    2220
acagggttat caggaggatc aaacccatat aatagattac tgtagctcca taaatgttag
                                                                    2280
                                                                    2340
ctgttgttgt caccatcacg accttattct taggacaatg gggtatttgg acagcaattt
                                                                    2400
ttgcctgaaa atgctggagc ttagccaggt cagggtatgg atgtaggctc attctcctct
gccttgggga aaatgccttt tccgagggaa aaagtgtttc ctcctctaga tggatgagtc
                                                                    2460
```

2520

cttatcagac aatatatcat aaatgcacag gaaggtttta aaaacttttt taaatattat

aacttcaaaa cgctaccctt ggggtcccag ggtaattcta tcagtgagac attgacacta 2580 caggattttt cttcctcttc ttcttcgtcg tcttcttctt cttcttgttc ttcttcttct 2640 2700 tottottott ottottotto ttotcottot cottotcott otcotcotco toctcotott 2760 2820 totacttata atactacta ttatactta ttattatta ttattatta attattatta 2880 tttttttgag gtggagtctc tatctgttgc ccaggctgga atgcattggg atgatcttgt 2940 ctcactgcaa cctctgcctc ccaagttcaa gcaattctcc tgcctgagta gctgggacta caggcgcatg ccactacgcc tggctaattt ttgtattttc agtagagatg gagcaggggc 3000 ggggggtctc accatgttgg ccaggctggt ctcaaactcg tgacctcaat tgatctgccc 3060 acctcggcct cccaaagtgc tgggattaca gacatgagcc accatgactg gctggggttt 3120 gtattattaa atttgaaaag gtttagaacc acagttctaa gttcgtggaa gaatgtttcc 3180 atagaaaacc cttccattcc tgccttcttg gttctggagc caggaatcat ctgagccagg 3240 3300 ctgtgtcaat cagagacgct gcagtagtcc ctggagttgt gctgaggtca ctggggcatc cagaagctgg ggaaagcagc ctacacggtg gccactgcca tcctgtgagt ctcggggaag 3360 ctattacttt catgctgtaa tatcttttta atttaaaaat atttaattgt caaaacaaga 3420 ttgaatacat tcaaagtgta taatgtgatg atttgatata catatacaat gcgtgatgat 3480 3540 taccaaagtc aaattcactc tttccattac cacccatgcc atacatcaga gccccagatc ttgttcatct ggagccagga atcattctgt gcaagttttg aaatgtattt ttaaagttta 3600 ataaataaaa catttattt atgtgtattt ttgcttataa tggtatgtat tctttaaaaa 3660 atttaaatac aggaaagttg aaaggattaa ataaaaacta accactattc tacatccaaa 3720 gataatttca gttaacattt ggtgtaaaga cttcaaaata ttttaaatat gcatatgtat 3780 acatgcagcc atgcatgttt aattgtacaa agtaaaactg aaatctttct ctatcatata 3840 ccatgttctg ttgtttactg atctataaaa aaaaaattcc taaatcatta aatgtttcaa 3900 3960 gagagttgat tttgggtgac tgcatagtag cccactctga ctatagtatt atttacttct 4020 gatattattg ggaacagtgg gttgctttca agatttcagt attataaata atactagcat 4080 atacacattg cacattattc tcttgggaaa aattcctgga gatttacttg gttttaaggc 4140 tcttgataca aattcaagcc aaccttttta aaagacaaca atagaaatgt agcctgggaa 4200 cagttcgtgt atattgaatt cgtatttaac agcatgagca tcttttcaat ttaacttcaa 4260 agttctagaa gaaagaattg gagtggagca atggttgtaa ctaagccgag tgagagctac 4320 cgtcattctc tctcactggt gagctcaaca cggaggctat gacgggttcc acatcacact 4380 cagaaccaaa gtgttactgg tgagtaaaca ggcttccgtg gcaaaacatt tttatttgtg 4440 tctatttatg tatttgcagc agatcgatgg caaagccttc ctgcttctga cacagacgga cattgtcaaa gtgatgaaga tcaaactggg cccagcactg aagatttaca actctatcct 4500 4560 gatgttcagg cattcccagg aactccctga agaagatatt gcctcaggcc aagaagtcag 4620 gggatgaatg ggctccctga acttcctctg gcaccaagac ctgcgctctt tcagcaataa 4680 aagtggagca cattaatttg atgtgaatgt ccccatggcc gtatccacac tgaatctgga 4740 ctttttaaag tgtctgtgat ttgtttacat gtttagagga ttttgatgac tggtccagtg 4800 ccaatgactc agaggcttag gcccatctgt gggtttggtt tacgaacatt gttatctttg 4860 gtgggatccg ctcagctctg atttgtttgc aagacagacc aaagaagccc acacatccac 4920 ctttattctt ctccgtcacc agaaaagaaa ccattttcca tcttacaagc ataacactct 4980 caagtggtga aatattagaa aagcagtgtt catgaataca tcgttaatgt ttttaccaga 5040 gcaacatcga gcttggctca gatctgccat ggagcacagc tagtctaaga gctagaggcc tggtgctttc aaaagacttc atgtgagatt tttgtgtact ttactcagga aagtgtgaat 5100 ctctaaaaaa taataataat aagcacatgt tttcatgatt cattaattct cctttttgtt 5160 ccattaacca tttcttggtt gtgctcccaa gctttcctgg agcctccaca aaggagagta 5220 5280 gccaggagta atgagaggac ggtcaggtgg gcacttccaa aagctggaga gacccttctg aggaccetee accateageg gggceteagg ggaccetgte etaacaetgg tgtggetget 5340 5400 gggccagacg ctcacctgca cagaactcct ccctgctccc actctgaagg gcgtttcaga attgactcat ttccactgca gtctgccaga acccctgtaa taaggagctg tgttatatta 5460 5520 catctggggc tgtgtgcatc tttacaaatg gagacacact attcaaaggg aagatctcta 5580 aagtagggag cgtggtactt attctttgtt tgaaacattc cgatttgttg tcaggcctta 5640 tttgtttttt gtaagtgatt gtatcggagg cttaagttgt gtggaatcag tcccacagtg ttgaaagaca agtacctctt ttctgacact tcttactact tttacaggta gtaacagcta 5700 caaatactct cccagaagtg gagggacacc atttgtgggt ggggagaaag agggagaggt 5760 tctatgtcca cttgcttcat taagaatgtt aaggtttaag aaagttgatt ctgcttggag 5820 aatttctcaa gctttacatt tttttttcac tgaagaaaat aaacaaactc taagaggtgt 5880 5940 gcatatataa catttettta gatetttaee taaaaggaat tttaatatat tattggttga 6000 tgtaaatttt gtttctgtgg agttttgttt gttttgcttt ttgtagactg ccatgtgcaa gtaaaattcc tgcttctgcc atgttaaaat tttaatatat tttaaatgat aataaacaga 6060 6074 gaaaacaaaa ttta

```
<210> 12928
<211> 476
<212> DNA
<213> Homo sapiens
<400> 12928
ccttgtctct atttctatta tttcctccta tgacactatg aaaaagtgag cccagcagaa
                                                                      60
gaactggggc aatgttgccc cccaggggca tttggcaata tctgggcata tttttggttg
                                                                     120
                                                                     180
ttacaactca gaaggggact ttcctactgg cacctagtga gtagagggca gggataccgt
taaacatccc accccaccca ggacagccct cacagcaaag aattacctgg cccgaggtgt_
                                                                     240
cagtattgag gttgaggaac ttggctttac agcattttcc tgcgctcatc tttgattcct
                                                                     300
                                                                     360
gccctgccta gccctgaggc tcagcatgag tctgtacaga ccctgctgga ccatttctct
                                                                     420
agetteetge agegetgtgg teettggeee teagtgeaca etggaaceaa etgggaaget
                                                                     476
ctaaaaatat ctacccagtg cttggaccca atccaactcc attaatttat catctg
<210> 12929
<211> 6131
<212> DNA
<213> Homo sapiens
<400> 12929
                                                                      60
gcagcaggcc aagggggagg tgcgagcgtg gacctgggac gggtctgggc ggctctcggt
                                                                     120
ggttggcacg ggttcgcaca cccattcaag cggcaggacg cacttgtctt agcagttctc
                                                                     180
gctgaccgcg ctagctggtg agtgtccctt ctgtgtgtgg gtcctagagc tcgcggtctg
                                                                     240
gtctggtctg gtccccagac tgacgcctgg tcggtccccc tcttgtctta cagcggcttc
                                                                     300
tacgctccgg cactctgagt tcatcagcaa acgccctggc gtctgtcctc accatgccta
gcctttggga ccgcttctcg tcgtcgtcca cctcctcttc gccctcgtcc ttgccccgaa
                                                                     360
                                                                     420
ctcccaccc agatcggccg ccgcgctcag cctgggggtc ggcgacccgg gaggaggggt
                                                                     480
ttgaccgctc cacgagcctg gagagctcgg actgcgagtc cctggacagc agcaacagtg
gcttcgggcc ggaggaaggt gagcggtggg cgggtgccga cgcgactcga ggggccggga
                                                                     540
aggtacagaa aaggagccca aagactcaaa agtttaaaaa aactgctcaa ctcaaacagc
                                                                     600
tgcaagtgac caacctggct gggacttaaa ccagatctgt ttgattctag aacgtactgc
                                                                     660
                                                                     720
actacctttt taattaatag aatagaataa aatagaatgg atttcttcta ccagattttg
                                                                     780
tatttcatca ctggcaagtt ctgccttcca caaaactctt ggacacaata caattcagcc
                                                                     840
aagttgtttg cacctttata acaaggatag cttttcctcc agtttccaac aacatgtttc
ttatttcaca agcatttagg taatctctaa gaatatcacg gcttttctct acagctctcc
                                                                     900
tcttctgagc tctcaccaga atcaccttta tggtccattc atggcaagcc aggctttttc
                                                                     960
                                                                    1020
cagcatgtac ctccaaattt ttccagcctc tattcattac ccagttgcaa agctgcttcc
acatttttag gtatttgtta tatagcaaca acccacctgt tgttaccaat ttctgtttta
                                                                    1080
                                                                    1140
gtctgttcag gttgtaggac aaaatatctt agactgggta atttatgaac aatatgaatt
                                                                    1200
tagcactccc agttctagag actgggaagt ccaagatcaa ggtactagca ggtttggtgt
                                                                    1260
ctqqtqagga tctgtttgtt cttcgtagat ggcaccttct atgtatcctc acatggcaga
aggggcaagg cagctccctg caacctcttt tataatgaca ctaacgtcat tcagtaggat
                                                                    1320
acagcctgca ttgagcctaa tcacttcccc aaagttccca tctcttaatg ctatcatact
                                                                    1380
                                                                    1440
ggatattgga tattaggttc caacatgaat ttggagtgga gggtgggaac accaagattc
agaccatagc tattatgttg ctcaaagata acaacaaaaa attaatattt ggatattatg
                                                                    1500
gttgtaagtt atagtcataa agcacttaaa acattcaaaa ttttggaggg ttataaaaatg
                                                                    1560
                                                                    1620
ttgagaaaac tcagattcac ataaactagt taagacgaat tgtgtactac tttccagacc
actcaccttg caatctcagg atgttcttta ttcaattaaa cagtgatgac agaaataaac
                                                                    1680
ttacttctta gtcaggaaaa ttgagttaac ctgcatacat ggtaacaggc aggtaattct
                                                                    1740
1800
                                                                    1860
gacagtccac tctgttgccc aggctggagt gcagtgatgc aatctcggct cactgcaacc
tccgcctcct gggttcaagc gattctcatg ccccagcctc ccgtcttcac cacggggaaa
                                                                    1920
tataggtaat gtatttataa ttgttatatc accttgatgg aatgactcat tcaaaatata
                                                                    1980
taatgtcctt cttagtttct tattataatt tccgttttaa agcttatttt gtctgatata
                                                                    2040
gccatctcta cttctttctg ttactatttg caggtaatgg ctttttccac tcacaatcaa
                                                                    2100
                                                                    2160
tcttgtcttt caatctcatg caagtttctt gtggacagaa tatagctaga tcatgttttt
 ttaaaaatcc attatgccgg tacctgcctt ttaattgaag tgcaatgcat ttacatttaa
                                                                    2220
```

agtcattatc aataaggaat gatacacttc tgccttaatt ttttttctgt ttgttttacg

2280

```
2340
tcttttatgt ttttcagtca tgccattaat gtcttctctc tgtttagttt tcttttagtg
tactattttg attcacatct tgcttccttt tttgaatatt ttttagtcat tttcttagtg
                                                                     2400
                                                                     2460
tttaacctgt ggattataag taatatctta aatttataag attctagttg gaagtaaaac
                                                                     2520
gaatttaact ttgaaagtat acaagaattc tgcttgtaat ataacttcgt ttctcccctt
ttatattgtt attgttacaa attacatctt tataaattgc ataccaatta acatagaatt
                                                                     2580
                                                                     2640
ataaattttt aaaatgcatt ttcttttaaa tcatatagaa aaaaggatta gttacaatac
                                                                     2700
taaaatgcaa taatacttgc atttatattt gtctaagtag ttaatttaac cagcttttaa
aaatttattt gtatggcttc agttttctgt ctagtatgtt tttatttctg cctgaaggac
                                                                     2760
tccatttagc attttttgtt gggtaagtag gtctactagc aataaacttt gtcagctttt
                                                                     2820
qtttatctqq aaatacctta gttttttctt catttttgaa gaatagtttt ggcagattca
                                                                     2880
gttggtagtt ttttgttgtt gttgttgttt gttttgtttt aggcacttta aatatgatgt
                                                                     2940
                                                                     3000
tccattgcct tctgccttct atggtttctg acaagaaatc agtggttaat gttattgaag
                                                                     3060
atctcttttg tatggcaggt cacttctctc ttgctacttc cagaaatctc ttcttgcctt
                                                                     3120
tgtcttttaa cagtttgatt acagtgtgtt ttggtgtgta cctctttgag tgtattctac
ttagagttta ttgatctgct tggatgcata gattagtgtc ttttatcaaa tttgggaagg
                                                                     3180
                                                                     3240
ttttgtccat catttctttt aacagtcttc accaccccgc tggaaggatc cgcgcgggcc
                                                                     3300
ttcaagagga ccgtctccac ccgtgtgaag aacggatgct ccattggttt aagtgatcag
                                                                     3360
aaaactcatt tggaggaatt atgtgctttc tctgggaatc cgacatagga aactatgaga
                                                                     3420
aggcacacac agttagttaa agcaggtctt tgtatttgct cttattagaa agtttcaacc
ttttgtagat gaactcaagt gattattttg gaagacagag cgttcttagg ttggactgag
                                                                     3480
                                                                     3540
ttaactggat attcaccttg cttcagttag tgatgtggaa cacccaggac aggaaaaaga
gaaattacta caatttaata tatattggga taaaagagct caccttgatt tatcactctg
                                                                     3600
                                                                     3660
aacaaaaggg gtcttccctc cttggaatcc cacactatta agggaatttc tgttgagagt
                                                                     3720
atcaattcca gacagtgttg ctccaatctg ctcatcacag actgtcttgg ctgcagctct
                                                                     3780
atgctgttgg tgtgcatggg ctgcacttgg aaggtaaaac ctttagggtg gccagttctc
                                                                     3840
atcatacagg gctccctttg ctaacccctt gcaaccacag acacacaagt ctctgagtct
ctcagggaac tttttggagc tttggccaaa actatcattg cagtcatctt tgacagcacc
                                                                     3900
agcagaatca aacttctctt tggggtggct caaaacttct cacctgcttt tctgcttttg
                                                                     3960
acaaaaaggc aacaattaaa acaaccaagc atcactcgtc ctgaggactt ggcccactgt
                                                                     4020
cttcttgttc tgagaatcaa gaaagcaaga tatggaaggg ataaacacca tgaacaggcg
                                                                     4080
                                                                     4140
tcaatagcct gtgattataa aatgaagggc actataactt ttaaaagtta ttctgttttt
                                                                     4200
catatgggta atacatgcat gtgatatgaa attcaaaagg cactgaaagg aatgtagtga
                                                                     4260
anatottoot tocacctcat ttoccagata gttootttoc coaggtotto accacgggtg
gctcgtgttt tcatcacaga ggagagatta gtgccctcat atcccaccca cctctcctgt
                                                                     4320
gcggtggtag tttttgaccc agcccaccca cccctaatct ccctcgctat cataacctgg
                                                                     4380
ggtaaaagga accgaaaatt gtgttttttc tctctatcca agctctacag gcgttagttg
                                                                     4440
gtgttgcctt catataaaaa aaaatgagga attggggaca aaaaaaaaa ccctaggggg
                                                                     4500
tgttttaata acgaattaag agcggggata aagggttata ggccactttt gagaaagagg
                                                                     4560
taaaaggccg gctttttttt ttctcacacc cggtcaagaa ataaagtgtg gggggaccgg
                                                                     4620
tcactaggga aataacgcca acaaggtgaa atattttgcc caaggcagaa aagaatcctg
                                                                      4680
gttgttttaa aaaaaaaagg aacttcccgc ccctgagtga atgcctttgg acccggttca
                                                                      4740
                                                                      4800
gaacacccgg ccagtgaggg tcacaagcaa attaccggta tttgggaaag aatatctttg
gggaaattag gcctagttaa gggacctagg ttttcacccc tgtgtactac ccttatcaaa
                                                                      4860
ttgcttcaag aaaacttggg cccaggcgag tctgggctct agacgccctg ggcgcctgtt
                                                                      4920
aatgcctagc cagttggtaa gccaggtggg caaagcatgg ttgcgcctgg cctatagcga
                                                                      4980
accgtacggc gtccgggagg ctctatagta cgtctgcgtg agcagggcaa gagctgcctc
                                                                      5040
agcgtgggcc agctggcact cgaccccagc ctggtgccca ccttccagct gaccctcgtg
                                                                      5100
ttgcgcctgg actcgcgact gtggcccaag atccaggggc tgtttagctc cgccaactgt
                                                                      5160
cccttcctcc ctggcttcag ccagtccctg acgctgagca ctggcttccg agtcatcaag
                                                                      5220
aagaagctgt acagctcgga acagctgctc attgaggagt gttgaacttc aacctgaggg
                                                                      5280
ggccgacagt gccctccaag acagagacga ctgaactttt ggggtggaga ctagaggcag
                                                                      5340
gagctgaggg actgattcct gtggttggaa aactgaggca gccacctaag gtggaggtgg
                                                                      5400
                                                                      5460
gggaatagtg tttcccagga agctcattga gttgtgtgcg ggtggctgtg cattggggac
                                                                      5520
acatacccct cagtactgta gcatgaaaca aaggcttagg ggccaacaag gcttccagct
ggatgtgtgt gtagcatgta ccttattatt tttgttactg acagttaaca gtggtgtgac
                                                                      5580
atccagagag cagctgggct gctcccgccc cagcccggcc cagggtgaag gaagaggcac
                                                                      5640
                                                                      5700
gtgctcctca gagcagccgg agggaggggg gaggtcggag gtcgtggagg tggtttgtgt
                                                                      5760
atcttactgg tctgaaggga ccaagtgtgt ttgttgtttg ttttgtatct tgtttttctg
                                                                      5820
atcggagcat cactactgac ctgttgtagg cagctatctt acagacgcat gaatgtaaga
                                                                      5880
gtaggaaggg gtgggtgtca gggatcactt gggatctttg acacttgaaa aattacacct
ggcagctgcg tttaagcctt cccccatcgt gtactgcaga gttgagctgg caggggaggg
                                                                      5940
```

```
6000
gctgagaggg tgggggctgg aacccctccc cgggaggagt gccatctggg tcttccatct
agaactgttt acatgaagat aagatactca ctgttcatga atacacttga tgttcaagta
                                                                    6060
                                                                    6120
ttaagaccta tgcaatattt tttacttttc taataaacat gtttgttaaa acagttggtt
                                                                    6131
gagtctctca t
<210> 12930
<211> 8645
<212> DNA
<213> Homo sapiens
<400> 12930
                                                                      60
tttcaatata aatgtgtaat tttaatattt aatttaaaat aaaaccaagg ctggattgga
ttgggaaaga acgtttgatt tgcagaagaa tataggaatt tttttaatca cgacattaca
                                                                     120
                                                                     180
agtcatttgt gaaaacagcc ttcctcctgc caccggctcc ctatacaacc tgcttaggaa
atatggaggt gaatcatccc ccttacctct tccctaccag ggcttggttc tccccaaaat
                                                                     240
                                                                     300
ccaaaggaga aataaatgtc ttccgttgcc tcttcccatt tttacagtca gcttctaacc
                                                                     360
ccttgcaaag ccctgaatca gagccaagca cctcagaaaa tgagggtccc ttggttctct
                                                                     420
tattgaagtt gggcacatgt ggtcagagaa gccccaagga aggccacagg gactgacacc
                                                                     480
tttacttttg gaatttgtgc agccagttgt cagggctccc aggtgcaacc accttataac
                                                                     540
catatccaca gtcacagagg agggagagga ggaaggatga aaaccctgag caggaccaga
cccccgccac tttatcatga ccctaccaaa gtccctctcc caggggtcat tggcagagaa
                                                                     600
accccaacag ctctctcaat caatcactgg ggcagcaggg aaggctgagg gccctggctg
                                                                     660
                                                                     720
gggaaaagct ggtctttgga gaggtatgaa tgtgcagata taaaaagcaa gaagagcatc
                                                                     780
cttatctcct tgccttggct aaggcactga caggaaaaat gcaaggtagg aatggcaaag
                                                                     840
aggggaaagg aagaagacaa aaatatagga actggagggg tatggggact accacatggg
ccccatactt gtgcaaagaa atgggtagag ccatgcctgc atgtctgtta cccataacat
                                                                     900
tcccctcacc ctgctccaga gtggaaggaa aatgagttgc aggaatccag ggagcacaat
                                                                     960
aacatagggt atttccctga gccttagggt taagggctaa agaataaagc tttatacaca
                                                                    1020
                                                                    1080
tggcaatttc tatcccttcc tatccttctc agtccccatc agcctaatgc tgaccatcct
                                                                    1140
tccactataa gagagatgag ggaggtgtcg gcacttgagg aaaaggctca gttggcttga
aatgtccact cctacagtgg aaagtccatc tatcagctta ttgctgatga ttttttttt
                                                                    1200
ttatcaccat cactetgace cetecetgte ttaggtetga ataattgggt cacceatagg
                                                                    1260
aatgcagaac ccagggtggg cagagcagag cagcacttgc tgggataggc ctcgagcctg
                                                                    1320
gtttctgagt ccttgaggac cacgagctaa caggagctgg tctgtaggtt gctctccgta
                                                                    1380
agcagtgatg caatggacga gggatcgtag acactgtcga attcctcatc tgagctcagc
                                                                    1440
ccttcgtttt tgagagctga ctcagcagct gagcgggaag ctttgcgcct gactcagaga
                                                                    1500
gaagaataat ggttggggag gggaaaatag aaatattaag acagccaccc tttttgtaca
                                                                    1560
aaggaaaccc caattcttct aaggcctaaa gtttattcac aaaatcccca actaatcaga
                                                                    1620
tttggggagg tacaggatgg tggctgagat actaataaat aaatatactg gcttccaacc
                                                                    1680
agaaacaagt gactacacag taccatgtta gagattctcc tccttatcca gcacaggaga
                                                                    1740
                                                                    1800
gaccattccc tccctgctct agtgtcccta tggagcaagg gcaaaagggt agcccatacc
aggagteett etecagagae ttgateeggg eetggagetg tteattgaee teatgetget
                                                                    1860
                                                                    1920
cctccacctc acgctgggcc ttcttcctca ggccgtccag tcgctcaatt tcctcttctg
                                                                    1980
cttcatccac ctgacgcttc aaagccttca ccctcaggct tagctgggca ggataccaag
tccacacatc tgaatagcat ctactaccat ggcctgggac cctcccccat aacaatcttg
                                                                    2040
acaaggtata attgccgctg gaaaaatgtg gccttgggca agttccttaa cctcacatgg
                                                                    2100
ttgtcttagg gattaaatgt attaacacat gtgtaatact tacagaacct agcacatcat
                                                                    2160
aagcactcaa tatatacgct taccatgact tetetagtet agtettttea atetaatete
                                                                    2220
tgtccttata caaggaaagt ctaagtttgg aggacctata ggagataagg gcctcccttg
                                                                    2280
gctttcagga aaacatataa tatatacctg ccccaggttg cttggctcca gggtgccatg
                                                                    2340
tcctcacctg gtctttctgg tcattgacat gctgccgctc gtcttcaatc tggatggata
                                                                    2400
gttctttaac tttccgctcc agttttcgat tggtagactg cagaactgtc ttctccctaa
                                                                    2460
                                                                    2520
ggtgaggtag aagaatgtct atgagtgtcc ccatttctaa gggaatccta acttggcccc
                                                                    2580
ctactgtccc caaggactcc tctcagccat gagctccacc attagactgg gcaggatcca
                                                                    2640
gggcagattc aaagaatgag ggagagtgac gtcattcaca tttcagaatt tctgcaacac
                                                                    2700
tctttgctct ctatcaggag aaagtgttcc ctaaagatca ggccaggctg gccatatctg
                                                                    2760
2820
agggaggaag ggaggaagga taggcttatg tcacctctct tcagcctgta gccgctcctg
                                                                    2880
caacaactga ttctgggact caagctgaga gaggctggca ctaggcttct ggaagccttc
                                                                    2940
tgagctggcc aaccgggtct tcaggtcctt gttctgagag ggacaggaag cctccacagt
```

3000 tagcacteca etggecattt tacteacete etggggteca tecetaagaa teeteeeete 3060 ccccatcacc tgtctctcca aggagatttt gtcacactcc aggtcctgcc gagcagacct 3120 ttcctgcatg agctctgtcc tcagctgatc cacctagtgg ggatgggtga gaggaccaga cttggggagg gctaaggatg aaccagcaag ctgaacaaag tgaggctgag tcatgggagg 3180 atggtctctg aaccctgaat ccaaaaattc ccaggcaact aaaaaatcac agcctattca 3240 3300 aatgggaggg gccagagaat gcaaacagag cctccttcgt ccctccagga actagtatcc 3360 cttgtaaacc aaagaagccc caattcaggt cagagaacag cccaggccac caggatccct tcctccatgc aaatcattgg cttctttcca cccaaggaaa ctggccaacc tttcccaaag 3420 cagacaaaac cctgaaggag acccagccac gcacagattc ggcagccaga tgatgaaaga 3480 3540 tgggagggta gagttgtttt tgagagaacc aagaggtgat gcagtcaggg gtaaacagag atgaggggtg ggggcggtta cctggtcccg gccacgattc acccgatctg ttagcagctc 3600 3660 cacggtgttc ttctcctcat ctaactctgt ttccagccgt gagacttttt cctaggacag 3720 aagaacaagt aattctgtcc caaatgctgg acaccagaat gccaaactca gaccaggagc 3780 ctctcaaact ccagcattaa cagacttttc tctcttgcac atcccagtaa ccttttggta 3840 cttgcctgga cccagagcca ctatggagcc agcgccctct actgaccaga tgtggcatca 3900 tgggcaggtc ggggccatgc tctggtgacg gccctttgac agaaaggcaa accccagaat 3960 ctactcttca ttggaaaacc ttatttctct aatgggaaaa gagagagaaa cccaagtacc 4020 tgggccaagg ctgaggtgaa gagactcaga aactgaggta ctggaggcag taccacgtag 4080 aggctaagag tatgtacatg ggaccagact gtccagtctg aaaatcagat ttaccacttc ctggcagtag accatggaca agttcatctc tctgtgcctc agtttccttc atctgtaaaa 4140 4200 tggagaaaac aagactacct accccacaga gttattctga ggattaagtc ttaagtgcct atcacacage acaatatgtt tgctgctgct attattatta tcaaatatag caaactgaag 4260 aatactgttc actctaaagg ggaaacccac tgctcagctc cagccaactg ttgccatgca 4320 gactcaggac aagacactca gtattaccat atctgccaaa tacaaaagaa actagaaatc 4380 caaattttta ggtgacctct ataaatttct aaacattggc aattgattca aagttgttga 4440 4500 aaatactgca gccaaacaaa actcatcaac tgtgggctgt cggttttgac cgctagtaca 4560 gaaagagget tggaagteee accettttte cacaggteae accteagtge ceteaceteg agaccettea getgeeggge cetgtegtee tgggaacget tettgttete tgeetettge 4620 tccagcccct gcagtcgctg ggccagtagc tctttgtcca gccgggctgt gtcccgctca 4680 gcctgggatg cctgcagggc ctgccgcagc ctctggatct gggcaggggg taaaaatgcc 4740 4800 acagctcagt gtagtgagaa ggtgagggtt gaggggcagg agcagtccag cccagtgggc agaaacattt catcactgtc actctttaga attaccagtg gcatgatgac aataaaaagc 4860 aaactgactt ttcatccatt ttctttttt ttcatttttt agatggagtc tcgctctgtc 4920 4980 gcccaggctg gagtacagtg gtgcgatctc agcttacagc aatctccacc tcccaggttc aagtgattct cctgcctcgg cctcccgagt agctgggact acaggcatgt gccaccacgc 5040 ttggctaatt ttttgtattt ttagtagaga cggggtttca ccgtgttagc caagatggtc 5100 tcaatctcct gacctcgtga tctgcccgcc acagcctccc aaagtgctgg gattacaggc 5160 aagagccact gcacctgccc tcattaattt cctttattgt ttttgttttt gttttttgag 5220 atggagtett getetgtege eeaggetgga atgeagtgge acaategegg eteactgeaa 5280 cctccacctc ccaggttcaa gcaattctcc tgcctcagcc tcctgagtag ctgggactac 5340 aggcatgcac caccacgctc agctaatttt tgtattttta gtaaagacaa ggtttcacca 5400 5460 tgttggccag gctggtcttg aacacctgac ctcatgatct gcccgcctca gcctcccaac gtgctgggat tacaggcgtg agccaccgtc ctcagcttct ttattgtttt taaagtctct 5520 acacaacttg gaatcacctg aggagttttt ttaaattctg atcctggatc ccatccccag 5580 agatgatgac tgaagtggta tgggatacag cctgggtgtg gggattttta aaaatctcct 5640 caggtggctc taagctacag aatttgaaaa tcactgctct acagacaata tattcctcca 5700 ccctgcaagt cattagacct aaacctgggc cccagggacc cttggccaca ggttcagtta 5760 agaggcaagg accgggctgg gcgcagtggc tcatgcctgt tatcctagca ttttgggagg 5820 ccgaggaggg cggatcacga ggtcaggaga ttgagaccat cctggctaac acggtgaaac 5880 cccgtctcta ctgaaaatat aaaaaattag ccaggcgtgg tggcaggcac ctgtagtccc 5940 agctacttgt gaggctgagg caggagaatg gtgtgaaccc cggaggcaga gcttgcagtg 6000 agccaagatc gcgccactga actccagcct gggcgacaga gtgagactct gtctcggaca 6060 aaaaaaaaaa aaaaaaaaa gaggcaagga ccttcaaacc caaggatatt agacttctac 6120 ctcatcctga agtcggctca gtcctccaga ggtcttctca gcctcactgg cccaatcctt 6180 ggcctggcgc tgggcatctg ccacctcccg ccgggccttt tccttataat cctccagctg 6240 ggcctggagc tgctgcaggg cttgcttaga gtcctccccg atcttctcca actgaaacac 6300 agagaaaagg gtcttcagca ctgtacataa atgaccctct ccaggcccag actcccaaga 6360 6420 ctctccccta agggtctcct tcctgacaag gcagccctct cttgctcttt cctgggccta 6480 ggttcctagt atagctaata gttatataca gatgtctggg ttcaaatcct ggctctacca cttactggtg accatgtgca agttacttat ctctctgggt ctcagtcccc catctgtaaa 6540 atgggattaa aaatagtaac tatatcacaa ggtgttgtga gaattacatt agttaattat 6600

```
gtgaagttct gtacttacaa cagtgcctga tacaaagtaa gccttaaatg accatttcag
                                                                   6660
caaacccaag gtgccaatga ttatacggcg taccactaag aaaaatatgc caattaaact
                                                                   6720
ataacatacc ataaggtata agacacaact ctatttcaga aatgataaaa tgtgcatttt
                                                                   6780
                                                                   6840
tcattgacaa atgataagat gtgcattttt cattgacaaa tgataagatg tgcattttc
                                                                   6900
attgacaaat gataagatgt gcatttttca ttgacaaatg ataaaatgtg cactttagaa
                                                                    6960
ttgatgtaac atattacgtg tttgctcttg ctttacaaaa agattgggag gagaacctta
gcagcaaaag caatttattt ccttttcttt tttctttctt ttctccttcc cctcacccaa
                                                                    7020
                                                                    7080
atttaaaatt ctaccaatga agatttttt ttttgacagg ctcttgctgt agcgcagtgg
                                                                    7140
ggcagtcaca gctcactgca gcctcaacct cctgggctca agcaatccta cgtcagcctt
                                                                    7200
ccgagtagct gggaatacag atgtctgggt tcaaatcctg gctctaccac taattagcaa
                                                                    7260
ccataggcaa gttacttatc ttctctgggt ctcaattccc catctataaa gagaaactga
ggaacaagcc accacagcag gctaatttta tttttaagta gagacagagt cttattatgt
                                                                    7320
tgcccaagct ggccattgaa gattcttgta tttaggtttt gtagactccc aagggagaat
                                                                    7380
cccaggagat gttctccaag aatgaagacc ataaaggaat aggatgtaag ggaaagagca
                                                                    7440
aaaacatgga ggggaggtag gaaggatgcc ccttccagaa gatttggtct tggtcttcct
                                                                    7500
aacaatgaac ttgaggaaag caaacatcac acattctttt tttttttttc ttaagacaga
                                                                    7560
gtcttgctct gtcacccagg ctgaagtgca gtggcatgat ctcgcctcac tgcaacctcc
                                                                    7620
accttccggg tgcaagtgac tctcctgcat caccctcctg agtagctggg actacaggca
                                                                    7680
tgagccacca agcccggcta attttttgta tttttagtag agacagagtt ttgctatgtt
                                                                    7740
ggccaggctg gtctcaaact cctgacctcg ggtatctgcc tacctcagcc tctcaaagtg
                                                                    7800
ctggaattac aggagtgagt caccgcacct ggccataatc atcacacatt ctgactaacc
                                                                    7860
cctctccccc aagcccctgt cctctcaggc cagcttctgg atgagctggg cctcttccta
                                                                    7920
aaggcccaga ataccccatg ccccacctcc ttgttcagtc ggtccacagt cctgtccagc
                                                                    7980
                                                                    8040
aaacgcttct gctcctccag ctcagccttg cctcgccgga gcacctcccg ctgcttccct
                                                                    8100
tcctcctcca gggcccggtt cagtgtctgc tgctcctgcc ccaggcgggc cagcccccgc
tgagcctcct ctaggcgtgc ctccagtgcc cgcttggctg ctgccagact cccctcctct
                                                                    8160
tcctgggacg cattcagggc ctcctccagc tgctgtttct ctgcctggga ggtagggaag
                                                                    8220
                                                                    8280
cagggttgga ctgagaaaag gtaaaacttg ggttcaagtc atttggaggt gggtagctgg
                                                                    8340
gcaggagaaa ggaggtattt atgaaaatga tgtgcaatga aaacaggctc ctagcaaaga
aatcaggaca catagagcaa gcaaagggtg agaaataaga aacaaaacta ccagtgcaaa
                                                                    8400
                                                                    8460
gactgaacat tggcgccaaa gtatacacca ggaaataaac ccaaggttaa cagagcaggt
                                                                    8520
ttggggaggc aaaacagatg cacactaagg gcaaagtgaa actgatggct aactacttag
cataggagta tttcaccagg gctgagcaga gagggctggg agggcagaac cactgacctc
                                                                    8580
                                                                    8640
cagccgctgc agcttgtccc gtagtcgtgc ctccaccgct tccccaccat ccaccagacc
                                                                    8645
tcgag
<210> 12931
<211> 112
<212> DNA
<213> Homo sapiens
<400> 12931
aggagaatcg cttgaacccg ggaggcagag gttgcagtga gctgagatca tgccattaca
                                                                      60
112
<210> 12932
<211> 5262
<212> DNA
<213> Homo sapiens
<400> 12932
ctcccgacct cgatcagcct cgaccctcag gaccgccagc tgcttctcca actcccggtc
                                                                      60
ccggtgtcgc ccagccacct cctggctctg ccgttctgcc tgcagttcct taagctcctc
                                                                     120
ctgtgtccgg agcagctcct ggaaggaaac gggaatggtg atggggcacc cagagccaga
                                                                     180
ctaagatacc tgaatgtgga gaagctgaaa ctctcataca ctgccaaggg aataaaaact
                                                                     240
                                                                     300
gatgtggcca ctttggaaag tagtttggca gtttctcaaa aagttaaaca cagatttacc
                                                                     360
atttatatca ccagcaattc cactcttagg taacccaaga gaaccgaaaa tatgtgttca
caaaaaaact tatacgcgaa tgttcatagt agcattattc attatagccc agatggatac
                                                                     420
acaacccaga tgtccacgaa ttgatgactg gactaaacac ggtataccca cagagtggaa
                                                                     480
```

540 tgttattcag ccataaaaag gaatgaagta ctcatacttg ctaccacatg gacaaacctt gaaaacacta tgctaggtga aagaagccag acccttaagg cccatatatt ataggattca 600 660 attatattaa atatccagaa taggtaaatc cagagacaaa aagtagatta gtggttgcca ttgggtgggg ggaattattg ctaatgggtt tggcgccttt gagggggtaa tgaaaatgtt 720 ctgtaattaa atagtgatga tggttgtaca actttgttaa tataataaaa accactgggg 780 gccaggcgcc agtggctcat gcctgcagtt tgggaggctg aggcgggtgg atcacctgag 840 gtcaggagtt caaaaccagc ctggacaaca tggtgaaacc ctgtctctac caaaaataca 900 aaaattagcc gggcgtggtg gtgtgtgcct gtaatcccag ctgcttggga agctgaggca 960 1020 ggagaatggc ttgaaccaga aggcagaggt tgcagtgagc cgagattgtg ccactgcact ccagcttggg tagcagagta agactccatc tcaaaaagaa aaaaaaaacc cattggattg 1080 tacacaaaga tgacttttat agcatgtaaa atataactcc ataaaaaaaa aaataccatg 1140 aagggagagt acatgaaggt atggctagta aggctggttg tttaaaaaaa atacagtgtg 1200 1260 aggctgggtg cggtggctca cgcctgtaat cccggcactt tgggaggcca aggagggcgg 1320 atcacaaggt caggagatca agaccaacct ggttaacacg gtgaaaccat gtttcacggt 1380 gaaacactga gtacgtgtat tttttttgta aaaatacaaa aaaaattagc cgggcgtggt ggtgggcgcc tgtagtccca gcaactcggg aggctgaggc aggagaacgg cgtgaaccca 1440 1500 ggaggcggag cttgcagtga gccgagatca cgccactgca ttccaccctg ggtgacagag 1560 catgggatct ccaactgcat gcaagagcaa cctggagaga ctttgacaga acaggtcagc 1620 1680 taaaaccaaa atgtgtgaca caataaatgc tggcacagct ctgatttctt ttaaaaagaa 1740 aattaaaata ggagttctgg ttctaattat tagctattag ctacttctga aattcagaaa 1800 1860 gtaccataat taggctaaag ggttatataa tatgtagtga atcttcaatg taataccata tactctgcta tttttctttt gctaattagt tttgttacat tagtaaccag gccatgccaa 1920 1980 cacaagtatt ccagtccatg tgatgatatt tctcaatgta aattaataaa ctgaaattct 2040 aatggtaaac atttttcat aaatgtagtt agagacccct ctgaaagaca aagcagcttt tgccatgctg accaaattag atttctgagc ctgcaaaaat catcctggag tttcacaaat 2100 ccacctaaat gctgctaccc atgacgtctc ttgggagtcg gccagcagcc tctggctata 2160 ccccaacctg ggttctgaga gcactttcca ttagaaacct ctatgctcaa tgaggagact 2220 ggtgctgctg tgctggaaag agatcaagct gagcaggcag gatgaggcct ggaaaccaag 2280 cacacaggag atagccccac tagcaagaag gccctcatgg agaggtaagg caggtgttca 2340 tcacccctac ctaccattct gccccccaat tcccaaatac cttcttgagc acctcaacct 2400 2460 ggcgagtatc tccagcacta gctcgggcct gctctaattc cctctgcaag acctctatct tctctccaag ctcctcttcc atctcctcct tctccattcg cagctgcagg agtctgagcc 2520 aggcaaggtg aaataaaggg gaaagggaac agagtaaggc cacatgcctg ggggaggtta 2580 gcatgacaat aaaagccacc tctctggagg ccaacacgct gggcaccaac tctcaagagg 2640 aaggaaggtg aacgtggaaa agagcagttt gagaaatggg agagtaagag cataccatag 2700 atagaaagga agtgggccag gcatggtggc tcatgcctgt aatcccagca atttgggagg 2760 2820 ccaaggcaga tggatcactt gagcccagga gttcaagacc agcctgggca acataatgaa accccgtctc tacaaaaaat acaaaaatta gccaagtgtg gtggtgcatg cctatagtcc 2880 cacctattcg ggaggctgag gtgggaggat ggcttgagcc caggaggtgg aggttgcagt 2940 gageceagae tgtgecaetg caetecagee tgggeaacag ageaagaeee tgteteaaaa 3000 3060 aaaagaagaa agggactggg tgcagtggct cacgcctgta atcccagcgt tttggggggc 3120 cgaggtggga ggatcacgaa gtcaggagtt caagaccagc ctggccaata tggtgaaacc ccgtctctac taaaaataca aaaaacccag gcctagtggc aggcgcctat aatcccagct 3180 actcgggagg ctgaggcagg agaatcgctt gaacccagga ggcggaggct gcagtgagcc 3240 aagactgcac cactgcactc tagcctgggc aacagagtgt gactccatct caaaaaaaa 3300 aaaaaaggag aaagggggcc aggcgcagcg gctcacaccc gtaatcccag tgctttggga 3360 3420 aacctcatct ctactaaaaa tacaaaaatt agctgggcgt agtggcatgc gcctgtaatc 3480 ccagctactt gggaggctga ggcaggagaa tctgttcaac tcaggaggca gaggttgcag 3540 3600 tgagccaaga tcgtgccatg acactccagc ctgggaaaca agagcgaaac tctgtcccaa 3660 3720 gaatcatggg tatttctgag agggccaatg tccttactcc tgcttggtgg ctctaagatc ctccttgttc ttctggaaca tactctgcca atgccctgtc tcctctgaag tctcctccag 3780 ctccctctgc agccctcgca caagggctga catcttctgc ctctcggcct ccagcactgc 3840 atggtcctag agaaggggag agttggacac cagaaggctc agagggaaga ggtcacttca 3900 aatcaaagtg tgagtgtgta caaggaaagg cttagaccca gagggcacca tgccaggtgc 3960 4020 accccctgac actcttgtgg tacctggtac aatgctagca gagattctct cctcaagtca cagtccaccc ctctatcatc tacaggaaac ctccccagtt atttcccctt gggacttttt 4080 atttttaggg ggacagagtc tcgctgtgtt gcccagggtg aagtgcaatg gcatgatctc 4140

```
ggctcactgc aacctccgct tccttggttc aagcgattct cctgccttag cctcccaagt
                                                                     4200
                                                                     4260
agctaggact acaagtacgc atcactacac ccagctaagt ttttgtattt ttggcagaga
                                                                     4320
tggggtttct ccatgttacc caggctggtc tctaacttcc tgagctcaag cagtccaccc
                                                                     4380
gcctcagcct cccaaagtgc tgggattaca tgcatgagct accgcaccca gtcccccttg
                                                                     4440
ggacttttgt cacacaacct caaggtactt ctggcctgta ctccctccct ctgcccctat
                                                                     4500
agttttcctg cccaaggttt tcagcagatc tcactgtgtc ctttaggagg agagggggag
                                                                     4560
ttcccagttg caaccatgaa aagtccaaaa gtccaagatc ccaaggcagc cttgttctcc
agcagtgccc tcctctcta gaccctgctc ttgtcacatg cctgggttgc atcttgcatg
                                                                     4620
ctcctgcgga gctgctctgt gtctcgctgg tactgctgcc ggacatgttc cacctcctgg
                                                                     4680
                                                                     4740
tcacqqqaqq ctacctcctc tttcagggcc cccttcaggg ctgtcaactc ccgctcccgc
                                                                     4800
agectcaget geteetetae tegetgttte eectccaaga eetetteeag aagtteeegg
gtctctaaca ggtcctggag aaaataaagg aagaagtaca ggggtgacca tattagaatc
                                                                     4860
catctgttta tcaattcact gagtcaaaaa atatttatcg tattaggcac agtaccaggt
                                                                     4920
gctctagtac cagtactgga gcccagaatg ataggtttcc tttatcctaa ctctagtccc
                                                                     4980
aacacaccat tgaatctacc tgaaagcaca ctgagtacct gtaatcagcc acccactcct
                                                                     5040
catactttgg ggaaaccatg gatgagcaga cttgaggatg ctccaactga gaaaaagcag
                                                                     5100
aggctggggc atatgacccc agaccctacc ttcagtaaca cctccttagc aggctcagga
                                                                     5160
                                                                     5220
ccctggacat gtttcagctt gttctgcagc tccatcacct gggtctccag cccatgtcgt
                                                                     5262
aaatcttcac cctggtccaa gaggcgcttc atgttctgga gc
<210> 12933
```

<210> 12933 <211> 2216 <212> DNA

<213> Homo sapiens

<400> 12933

gctactcagg agactgggca ggaggattgc ttgagcccag gaggttgggg cttcagtgag 60 120 ccatattcac accactgcgt tccagcctgg gtgacagagc aaggtgctat ctccaaaata aataaataaa tgttaaattt gctttttct ctctctcttt ttttatgtag aatttgtttg 180 ttgatactta ctgaatgtag tgaccctgct gtggtaatga acacttctag tgccttctag 240 300 gcttaaaata ccagacaacc ccaaataaca aatgctcttt tgtgttttga taggttggat ttctgtttgc ttaatattgg gaatactggg ggaaaaaaaag atggtgtttt cattctaagg 360 attgtcctaa agaaagtgct actttatttt taagaaagta aggccacttg ttatataaga 420 aataacaagt tcccattggg tcccattttg caaaagggga taaagaatta gactgatagc 480 540 atcatacgag gcatatttca ctatacaaag tgttgtacac ctgtctatac aactctccta 600 cccagcttga cctcactttt catacctgat gcagcaaaca attcagtgcc ataggagaag 660 gaagcagcat ggttataagt gactaacacg atattaggca atttgtccaa atttctcatt 720 ttctttatag gtaaagatag cattcttatt tgattaattt tttgttccac tggctttgaa 780 agacaaacga ttgttaaaga taaaattgtt tttgttcttt ttcttatagg tccttcagtc 840 ttggagacta taagggagcc tctgcaccca gggaaaatgt taccctttac aggggggaag 900 ggtaaaccag tagggaatac agtacaatcc caaccctact gggaggggcg ggagggaggt gttgccgtca ctgtattaag tcgatgttgg gaaacgtttt aacatctgga gcctttgtgg 960 gtggaaatat gtctccagtt acaactccgc agtggatgtg aagaagcaaa aaaaaaaaa 1020 tctattcagt ctactcacaa aacagtacat tgtggaatat tatggggaat tgtaccaaaa 1080 caagaaccat ataaatgatg cctagggaca agaaagagga acaattctat agcgcacaat 1140 1200 aaaggaaacc taagaatggg agttacaaat agtaaagaag cttttttttt ttttaattt aaagtttttt tatgtaagtt ttcccacatg atggggcctt gttttgcatg ttgatgaaga 1260 actacacaaa gaaaactaat atagttaaaa gtcagcttgc cttcccgtag tagaagcagg 1320 ttcttggaag ttacaattta aggtacccca aaaaagttgg aaataaaaca aaacaaacat 1380 aaacaatgaa gcaccctgtg aaatgccaaa tgagtcactc cttttacctt ttttggggtg 1440 1500 ggcagggagg gaggaataaa tggggttggg catatcaaac taaagatgac atcttaattt tgcattgaac attaatgtag cggatataat ttgatgatta tacttcatta gatttaattt 1560 1620 ctaggccaag atgttacttt ttaaagtgca gtttaaggtt caggcatgca ttctggctca tagtggttga aagtaattta aattagtggg aaagtagcat gcttgcatca cttagagtga 1680 gattggtatt catttaccta tgttgcgcca gtttgtgttg cagtttacca attcaatata 1740 1800 gccctgcatt taaagttcct ttttaagatt tgtggatttt atttttatta agaacataga tatataaagt actgtagttt acaggtaggc cttgaaatat cttttttagg atctgttagg 1860 aataagattg atattgtatt gtgtgtaacc tgcacaatgt ggaaagctga tatacctgtg 1920 1980 caaaatcttt gcctctgtgc tgtcagtgtg atgtgctttc tgcatggtta tatactacta

gtgattttat caaaacttct aaaatttaaa ttacgtggta aaagatctgt aaaaggctgc

2040

```
2100
ataaatgtta gttggcacat aaagacaatt gtagaagttg aaaaatgatt gctatatttc
aatgtttatt cccactcaac atactgcctt ctaagcttcc ctttttttgt tcaagcatga
                                                                    2160
                                                                    2216
tcttacagat atgtttaagt taatggatgt aatgcagggt tctacactgt atttgg
<210> 12934
<211> 3607
<212> DNA
<213> Homo sapiens
<400> 12934
                                                                      60
gctactcagg agactgggca ggaggattgc ttgagcccag gaggttgggg cttcagtgag
ccatattcac accactgcgt tccagcctgg gtgacagagc aaggtgctat ctccaaaata
                                                                     120
                                                                     180
aataaataaa tgttaaattt gctttttct ctctctcttt ttttatgtag aatttgtttg
                                                                     240
ttgatactta ctgaatgtag tgaccctgct gtggtaatga acacttctag tgccttctag
gcttaaaata ccagacaacc ccaaataaca aatgctcttt tgtgttttga taggttggat
                                                                     300
                                                                     360
ttctgtttgc ttaatattgg gaatactggg ggaaaaaaag atggtgtttt cattctaagg
                                                                     420
attgtcctaa agaaagtgct actttatttt taagaaagta aggccacttg ttatataaga
aataacaagt tcccattggg tcccattttg caaaagggga taaagaatta gactgatagc
                                                                     480
atcatacgag gcatatttca ctatacaaag tgttgtacac ctgtctatac aactctccta
                                                                     540
cccagcttga cctcactttt catacctgat gcagcaaaca attcagtgcc ataggagaag
                                                                     600
gaagcagcat ggttataagt gactaacacg atattaggca atttgtccaa atttctcatt
                                                                     660
ttctttatag gtaaagatag cattcttatt tgattaattt tttgttccac tggctttgaa
                                                                     720
agacaaacga ttgttaaaga taaaattgtt tttgttcttt ttcttatagg tccttcagtc
                                                                     780
                                                                     840
ttggagacta taagggagcc tctgcaccca gggaaaatgt taccctttac aggggggaag
                                                                     900
ggtaaaccag tagggaatac agtacaatcc caaccctact gggaggggcg ggagggaggt
                                                                     960
gttgccgtca ctgtattaag tcgatgttgg gaaacgtttt aacatctgga gcctttgtgg
gtggaaatat gtctccagtt acaactccgc agtggatgtg aagaagcaaa aaaaaaaaa
                                                                    1020
tctattcagt ctactcacaa aacagtacat tgtggaatat tatggggaat tgtaccaaaa
                                                                    1080
                                                                    1140
caagaaccat ataaatgatg cctagggaca agaaagagga acaattctat agcgcacaat
aaaggaaacc taagaatggg agttacaaat agtaaagaag ctttttttt tttttaatt
                                                                    1200
taaagttttt ttatgtaagt tttcccacat gatggggcct tgttttgcat gttgatgaag
                                                                    1260
aactacacaa agaaaactaa tatagttaaa agtcagcttg ccttcccgta gtagaagcag
                                                                    1320
gttcttggaa gttacaattt aaggtacccc aaaaaagttg gaaataaaac aaaacaaaca
                                                                    1380
taaacaatga agcaccctgt gaaatgccaa atgagtcact ccttttacct tttttggggt
                                                                    1440
gggcagggag ggaggaataa atggggttgg gcatatcaaa ctaaagatga catcttaatt
                                                                    1500
                                                                    1560
ttgcattgaa cattaatgta gcggatataa tttgatgatt atacttcatt agatttaatt
tctaggccaa gatgttactt tttaaagtgc agtttaaggt tcaggcatgc attctggctc
                                                                    1620
atagtggttg aaagtaattt aaattagtgg gaaagtagca tgcttgcatc acatagagtg
                                                                    1680
agattggtat tcatttacct atgttgcgcc agtttgtgtt gcagtttacc aattcaatat
                                                                    1740
agccctgcat ttaaagttcc tttttaagat ttgtggattt tatttttatt aagaacatag
                                                                    1800
                                                                    1860
atatataaag tactgtagtt tacaggtagg ccttgaaata tcttttttag gatctgttag
                                                                    1920
gaataagatt gatattgtat tgtgtgtaac ctgcacaatg tggaaagctg atatacctgt
gcaaaatctt tgcctctgtg ctgtcagtgt gatgtgcttt ctgcatggtt atatactact
                                                                    1980
agtgatttta tcaaaacttc taaaatttaa attacgtggt aaaagatctg taaaaggctg
                                                                    2040
cataaatgtt agttggcaca taaagacaat tgtagaagtt gaaaaatgat tgctatattt
                                                                    2100
caatgtttat tcccactcaa catactgcct tctaagcttc cctttttttg ttcaaagcat
                                                                    2160
gatcttaaag atatgtttaa gttaatggat gtaatgcagg gttcctacac tgtattttgg
                                                                    2220
cgcatgttgg tggccctctg tgccctagat atatgcacac agggtgcaag ttaaaagcta
                                                                    2280
cagagtgaaa gttggtttgg atcctcttca tttcatttgt ttagcttttc tgttattttt
                                                                    2340
ctctacttac atgtattcct gtgaataaat ccttgttaag ttaacccttt acttttcctt
                                                                    2400
ccatgtgtat tttcttatat actgtgaatg tgaaaaccta actggtacac ttgatcttgt
                                                                    2460
                                                                    2520
gttcatatga aagtgcaagt ctttattaat ttggattgcc tgaacagtgt atcccatgat
gatgaaggaa aatggagaga tttttctttt taactctgct ggtcagagat gaagccacgc
                                                                    2580
ctttccattt ttcaatgctg catatttaat ctgcaacaaa aatgttaagc cataacagcc
                                                                    2640
                                                                    2700
tttttatatt ttagtttgtc acctttgcat tgcagaataa atactgaata accattttta
taagcagttg ctcctctttg catggttcta ttctctaaaa gtgttgaatg atacagccat
                                                                    2760
tgcactgaag tttgagctgt gtgcgtgtga atttatactg tttcaaaaat ttcaaatgca
                                                                    2820
                                                                    2880
 tctgtttttt aacgttcttt cacctttcct ctactttggc tttgcaaatt tcagtctgta
                                                                    2940
gagcctgaaa ttaaattatt ttatagtgcc tgatattttt aatattataa gttggattca
                                                                    3000
```

```
aagggtatac agcattttgt tttctagtac cattgcttca ctgggagctc aaaatttgcc
                                                                     3060
tccctgttag tctttaataa ctgagtagag tagctttttt attcttagat tatagtgata
                                                                     3120
ttctgtagtg cttcaaatac ttagaattct aatatgagag atagtttaat attctggaat
                                                                     3180
agagagtatt ttaaattgaa atgaccaaat tcgatttaaa acaaacacat aacaatcttc
                                                                     3240
                                                                     3300
agtaaagtta tttgaacctg tggttgacaa ttctgtattg actaaaggca atattgtcac
                                                                     3360
ctgtctcatt aaaaattagt ttccagttag gcagatgaat aacactatta aaaatgcacc
                                                                     3420
cagttttgta gtcacttgac ttttttttt tatttaaatg aaatttaatt tgaaaataga
                                                                     3480
aaataaaatt aggtaaatat gactggcaac ttgaatttga gttgggattc tttgtgtatt
                                                                     3540
tttccccctt gaggttattg tttcttccta atttatattt cagatacata gtgtagaaca
                                                                     3600
ggaatttgca gaagccattt aagttatctt ttgaggtaag ctctgattta gcatttattc
                                                                     3607
tgataaa
<210> 12935
<211> 10685
<212> DNA
<213> Homo sapiens
<400> 12935
tcttgcttgt tacaggattt tatatttttt tgtgatgccg ttgcatcatg gattaaccca
                                                                       60
aaagatgatc tcagagacat gttctgtaag gtaactaata agtctttata atgcatcatc
                                                                      120
                                                                      180
ttgagactgt taatatccta gtggaaaact ttaaattatg tttacatttt ttgtgaaagt
                                                                      240
taggctcttc aagtcagtat tgatagttta catatataac ctttattctt ggtaacaaag
                                                                      300
ttggcttgat cttttcttaa aatacagcag tgactcttat ctgtagagga tgcactttga
aagtattttc ccaagtgtac cactagttta ggtggtccca ttattccatt taaggaaaat
                                                                      360
                                                                      420
agtatatgtt tttcaagatg gaaatggaga cttggagtat aatctgaaaa agagtaaatc
taaatggctg ccacaggagt aagcccatgt cattatttgc tttgttaata ccctcttttg
                                                                      480
                                                                      540
attaactcgt cagtactcaa ccacagtaaa aaataaaatg cagttacaca tttgaatcac
                                                                      600
ccaagattaa agttagtgaa ctatagtttg tcatgaactc aaagcttgtg tatttgcagt
ttgaaaaaat acgacataaa aattgtattg cttggatgac ttctctactt tatcttttca
                                                                      660
ttagtatggt atcagagatt gcttagagta tatctgttac tggaacactt gccaaagtct
                                                                      720
                                                                      780
aaacttctca aagcagagtt taagcatatg ctatgaggta cttttaggca aggcacgtgt
                                                                      840
attagtccat attcacgctg ctgataaaga tatgcccaag ggccaggctc agtggctcac
                                                                      900
acttgtaatc ccagcacttt gggaggccga ggcaggtgga tcacctgagg tcaggagttc
aagaccagcc tggccaacat ggtgaaacgc catctctact aaaaatacaa aaaattagct
                                                                      960
                                                                     1020
aggggtggtg gcggatgcct gtaatcccag ctactcagga ggctgaggca ggagaatcgc
                                                                     1080
ttgaacccag gaagtggagg ttgcagtgag ccaagatcat gccgttgcac tccagcatga
gcaataagag tgaaactctg tccccccac acacacaaaa agatatgccc aagactgggt
                                                                     1140
                                                                     1200
aatttacaaa agaaagaggt ttaattcgac tcacagttcc atgtggttgg ggaggcctca
ctgtcatggt ggaaggtgaa agacaagtct taaatcgcag caggcaagaa agagaatgag
                                                                      1260
aatcaagtga aacgggtttc cccttatcaa accgtcagat ctcatgagac ttattcacta
                                                                      1320
                                                                      1380
ccaccagaag agtataggaa aaactacccc tatgattcag ttatctccca ctgggtccct
cccacaacac gtgggaatta tgggagtaca attcaagatg agatttgggt ggggacacag
                                                                      1440
agccagacca tattagcagg gaatggtgta gaatcctacg aagtttgaga attgctactt
                                                                      1500
                                                                      1560
taaaatggat aaaatttata aaaaaatcag ctgtgttaga tttcagaagc tatgctgatc
tgaatttttc tcttgttatt gataaattaa tggtttttca ctcttacaga tccttcatgg
                                                                      1620
                                                                      1680
atttaaaaat caagttggcg atgaaaattg gaggcgtttc tctgaccagt ttcctcttcc
cttaaaagag cgtcttgcag ctttttatgg tgtttaatct aatacactta agctgcagtc
                                                                      1740
ccaaaattag gggtaagtta taagaagttt ggaaattttc aggatgaaga aaattttgtt
                                                                      1800
agggctgtca tttcaaacta ctaaatagaa taaaaagcta tttgttttct atagaggttg
                                                                      1860
aataaaacat agcctcatat cattctatct tgggctttaa atttaaaatt acttaagtgg
                                                                      1920
                                                                      1980
gccaggtgtg gtggctcatg tctgtaatcc cagcacttgg ggaggccaag gtgggcaggt
catttgaggt caggagtttg aaaccagcct ggccaacatg gtgaaaaccc atctctacta
                                                                      2040
aaaatacaaa aattagccac gtgtggtggg acgtgctttt gtagtccctg ctactcagga
                                                                      2100
ggctgaggtg ggaatatcgt ttgaacctgg gagatggggg tagcaggtga gccaagatct
                                                                      2160
tgccagtgca ctccagccta ggggacagag caagactcca tctcaaataa atagaaaata
                                                                      2220
aaattactca agtgaaggct aaagaaattt tcttaataga accaacaagc ccagaaaaac
                                                                      2280
                                                                      2340
gattagetee agtttgaate gtaggtataa agaaateeae gttggtaeae tggttggatt
tctcaacatt gcttcaacta ttccttttt ctttcttttt tcctgcaaga agacatcggc
                                                                      2400
actcatagtg atggggtaaa attgatttca ttttggagca tgaatttata gtctctgctg
                                                                      2460
```

2520

taacaaggac ttttcatttc acgtgctttg aaagaaaact cagttgggtt ttggcccact

gtttttgttt ttcactgtat gtttcactga gtacctacca tgtgcccatc acttttttt 2580 2640 tcttttttt tttttttt tttttttt tgagacagag actctttcgc ccaggctgga 2700 gtgcagtggc gcaatctgag ttcactgtaa tctccgcctc ttgggttcaa gcaattctcc 2760 tgcccgagcc tcccaagtag ctggcattac aggcacatgc caccatgcct ggctaatttt 2820 tgtattttta gtagagatgg ggtttcacca tgttggccgg gctggtctcg aactcctgac 2880 cttgtgatgc acccacctcg gcctcccaaa gtgctgggat ttacaggcgt aagccactga gcccagtgcc taggactata ttttaaaaata agcaatgaaa gattctgttt taatttggga 2940 tggactatat tcatttggac tcttgctcct tgagctcttc tgtacttaaa tgggactagc 3000 agttctcatc tctgagcttc ggttttgtca ttgagttatg ttgaggatta aatactatac 3060 tgtatgtgat gccagaactt agtatgttgc ctggcacact aagttgactc agtaaaggtt 3120 aggaactggg ccagtacaat aaatatcagg gttttgacat tcatctttag attttcaaca 3180 tgaattaaga catatctgac tggaagccag aagatgtgct gaatgagcat gtacagaaga 3240 tgtacaccaa gttgaattac actttagatt gaattggagg agtttttttg gcttgcttgc 3300 ttgcttgttt actccaagct aaaatttaaa tctggaaaga tttcaccatc caagctgtct 3360 aacctagaag gtagtagaaa tggactcaaa gcttccagaa tgtgtcagag cccttcatat 3420 gtgttgtcct acttcagtct tgagtcctca agagctgttt tccaaaatgg ctttggcatt 3480 3540 ttggaaaagt gctggattca ccttatgtta aattatgaga atgcaaaaga tgagaatgac 3600 ttgtagcttc aaagcttcaa tgagctacta acaagtcttg agcactttca gatttattac ctctgtggtc tcatcaccaa tcatgaatta actgttctaa gacaaggtat gaaatagttc 3660 tcggttttgt aattagagct aaaagtagat cagtatcttt tattcctgcc tttttgtact 3720 cctcttcctt ttcttcagag gcaggagaaa agggattgct tatatttcta cacagatgga 3780 3840 ttaactgccc tctgtgaatt cacatgaacg ttcataaatg gccaaaactt ggcatgattg 3900 ggtagtagag ttctgtttgt aaaaggacca ctatcaggta acagtttaaa tctcccagta 3960 atcttacctt atttcttaat atccttttta tcattaaaac tgtttagcat agaaaaaagt 4020 tcctaccaga aaaaccaagt gactggaaga tagtggaaat gaccaagtga aataggatca 4080 gaatgggaac taattaggaa catcaagaag gcaagtgtag gcagggtgtg atggcccaca tctataatcc tagcatttcg ggaggctgag gtgggagcat tgcttgagcc caggagtttg 4140 4200 agacctgcct gggcaacatg atgagacctc catctctatg aaaaaaatta aaaagaaaaa 4260 aatgagctgg gcatggtggt atgtacctat ggtcccagct actcaggaga ctgggcagga ggattgcttg agcccaggag gttggggctt cagtgagcca tattcacacc actgcgttcc 4320 agcctgggtg acagagcaag gtgctatctc caaaataaat aaataaatgt taaatttgct 4380 4440 tttttctctc tctcttttt tatgtagaat ttgtttgttg atacttactg aatgtagtga ccctgctgtg gtaatgaaca cttctagtgc cttctaggct taaaatacca gacagcccca 4500 4560 aataacaaat gctcttttgt gttttgatag gttggatttc tgtttgctta atattgggaa tactgggggg aaaaaagatg gtgttttcat tctaaggatt gtcctaaaga aagtgctact 4620 ttatttttaa gaaagtaagg ccacttgtta tataagaaat aacaagttcc cattgggtcc 4680 cattttgcaa aaggggataa agaattagac tgatagcatc atacgaggca tatttcacta 4740 tacaaagtgt tgtacacctg tctatacaac tctcctaccc agcttgacct cacttttcat 4800 4860 acctgatgca gcaaacaatt cagtgccata ggagaaggaa gcagcatggt tataagtgac 4920 taacacgata ttaggcaatt tgtccaaatt tctcattttc tttataggta aagatagcat 4980 tcttatttga ttaattttt gttccactgg ctttgaaaga caaacgattg ttaaagataa 5040 aattgttttt gttcttttc ttataggtcc ttcagtcttg gagactataa gggagcctct 5100 gcacccaggg aaaatgttac cctttacagg ggggaagggt aaaccagtag ggaatacagt acaatcccaa ccctactggg aggggcggga gggaggtgtt gccgtcactg tattaagtcg 5160 5220 atgttgggaa acgttttaac atctggagcc tttgtgggtg gaaatatgtc tccagttaca 5280 actccgcagt ggatgtgaag aagcaaaaaa aaaaaaatct attcagtcta ctcacaaaac agtacattgt ggaatattat ggggaattgt accaaaacaa gaaccatata aatgatgcct 5340 5400 agggacaaga aagaggaaca attctatagc gcacaataaa ggaaacctaa gaatgggagt tacaaatagt aaagaagctt ttttttttt ttaatttaaa gtttttttat gtaagttttc 5460 5520 ccacatgatg gggccttgtt ttgcatgttg atgaagaact acacaaagaa aactaatata 5580 gttaaaagtc agcttgcctt cccgtagtag aagcaggttc ttggaagtta caatttaagg 5640 taccccaaaa aagttggaaa taaaacaaaa caaacataaa caatgaagca ccctgtgaaa 5700 tgccaaatga gtcactcctt ttaccttttt tggggtgggc agggagggag gaataaatgg 5760 ggttgggcat atcaaactaa agatgacatc ttaattttgc attgaacatt aatgtagcgg atataatttg atgattatac ttcattagat ttaatttcta ggccaagatg ttacttttta 5820 5880 aagtgcagtt taaggttcag gcatgcattc tggctcatag tggttgaaag taatttaaat tagtgggaaa gtagcatgct tgcatcacat agagtgagat tggtattcat ttacctatgt 5940 tgcgccagtt tgtgttgcag tttaccaatt caatatagcc ctgcatttaa agttcctttt 6000 taagatttgt ggattttatt tttattaaga acatagatat ataaagtact gtagtttaca 6060 ggtaggcctt gaaatatctt ttttaggatc tgttaggaat aagattgata ttgtattgtg 6120 tgtaacctgc acaatgtgga aagctgatat acctgtgcaa aatctttgcc tctgtgctgt 6180

6240 cagtgtgatg tgctttctgc atggttatat actactagtg attttatcaa aacttctaaa atttaaatta cgtggtaaaa gatctgtaaa aggctgcata aatgttagtt ggcacataaa 6300 6360 gacaattgta gaagttgaaa aatgattgct atatttcaat gtttattccc actcaacata 6420 ctgccttcta agcttccctt tttttgttca aagcatgatc ttaaagatat gtttaagtta 6480 atggatgtaa tgcagggttc ctacactgta ttttggcgca tgttggtggc cctctgtgcc 6540 ctagatatat gcacacaggg tgcaagttaa aagctacaga gtgaaagttg gtttggatcc tcttcatttc atttgtttag cttttctgtt atttttctct acttacatgt attcctgtga 6600 ataaatcctt gttaagttaa ccctttactt ttccttccat gtgtattttc ttatatactg 6660 tgaatgtgaa aacctaactg gtacacttga tcttgtgttc atatgaaagt gcaagtcttt 6720 attaatttgg attgcctgaa cagtgtatcc catgatgatg aaggaaaatg gagagatttt 6780 tctttttaac tctgctggtc agagatgaag ccacgccttt ccatttttca atgctgcata 6840 tttaatctgc aacaaaaatg ttaagccata acagcctttt tatattttag tttgtcacct 6900 ttgcattgca gaataaatac tgaataacca tttttataag cagttgctcc tctttgcatg 6960 7020 gttctattct ctaaaagtgt tgaatgatac agccattgca ctgaagtttg agctgtgtgc gtgtgaattt atactgtttc aaaaatttca aatgcatggt agcatgtaga aaggtttttg 7080 ttactatgtg tgtgtgtgt ttttgttttg ttttgttctg ttttttaacg ttctttcacc 7140 tttcctctac tttggctttg caaatttcag tctgtagagc ctgaaattaa attattttat 7200 7260 agtgcctgat atttttaata ttataagttg gattcaaagg gtatacagca ttttgttttc tagtaccatt gcttcactgg gagctcaaaa tttgcctccc tgttagtctt taataactga 7320 gtagagtagc ttttttattc ttagattata gtgatattct gtagtgcttc aaatacttag 7380 7440 aattctaata tgagagatag tttaatattc tggaatagag agtattttaa attgaaatga ccaaattcga tttaaaacaa acacataaca atcttcagta aagttatttg aacctgtggt 7500 7560 tgacaattct gtattgacta aaggcaatat tgtcacctgt ctcattaaaa attagtttcc 7620 agttaggcag atgaataaca ctattaaaaa tgcacccagt tttgtagtca cttgactttt 7680 tttttttatt taaatgaaat ttaatttgaa aatagaaaat aaaattaggt aaatatgact 7740 ggcaacctga atttgagttg ggattctttg tgtatttttc ccccttgagg ttattgtttc 7800 ttcctaattt atatttcaga tacatagtgt agaacaggaa tttgcagaag ccatttaagt 7860 tatcttttga ggtaagctct gatttagcat ttattctgat aaaatctaat acatcatggg 7920 atatatata agcaacttaa ttcttgtggt gtagtcttaa tagttttgaa tgttgactga atgtctataa aattgtgagt ttgtctttgt tacattccag tgtttctgcc tcttggcatg 7980 cttaaagcac ggcttacttc atctgctcct tacacactaa aatgctgtta gtgtgctcaa 8040 ctacagaaat agccgctgct aagtgatgta gattttctac ttgaatattt ttatgttgta 8100 ggaacctcag gaggtcagtg tttactgttt tatatatgcc ttctttttcc tgtttgagct 8160 tctctctttg aaggattcta acagaacaaa gctgctgatc aacctaagtt ggaaacagaa 8220 8280 agtgtaatta atataactta aatgcatgtt tggcagttcc atgttacagt ccattagcga gtgaacttag tgccacaggt attcatttat tcaggaaaga attttgcttt ttgtattgtc 8340 taatctcttc aatgacttca tactgtgtaa aaaaaaatca ctttttaata ttttttggtt 8400 ggttatttcc caaataatca acatgtaaat aatcttttaa gagccagttc tgatgcttta 8460 cattattgct acttgatttt gttatgcaag ttagatttca gaagaataga ttttaaaaca 8520 8580 cttaaccaag ccattacatc ttaaaaacaa aacaagtagc atacattttg taattaacat tgataaacac tgtgattttt ttggttaaga ctttttcatt gatctgaatt gcttaaattg 8640 catatattgt aaaataggat cagatgtata ttttaaacta atttcaatgg attttcctct 8700 tgaaatgctt tgtctactca gttataaaat attcagatac aagttttatc tcaggtgaat 8760 8820 acticttqtat tgtttttgct ttggtgacat gcttataaag ggtcatccta gttacattct ttgtttttta agtgtatttc attgagaatc tttccattta gtctgatttt tttcctaata 8880 8940 ttctagcagg ctggggtggt ataaagccct cctgacaagc cttttgccta caggtttacc tgaaaatgag ctacatatgg tcgtcatttt cttcaaactc tcaaaatagg aaagtggaaa 9000 tttttctccc ctatataaaa ttattctgcc tagcagaaat gccagaaata aattaattgc 9060 9120 atcttagtct aaatttaagt cctttgccat gaggaaaaag tggttttttg cttcatatgg taaatctata ttattcatat tgaatgtatt aacagataat ggtgcaaaag cattcttccc 9180 9240 aggggaagag tgtatcatgc ataactgcaa tttaagtcct tcctttgata atacttcaaa 9300 acatacacag ctttgcttac tgaattattt ttgcaaataa tacaaggagg ggaaactaac ttgctactag tgttgttaat gaagtatagg ccttggaaca tttaagaaaa ctggtcttca 9360 gatagttaag ggcttgggat aatttaagtg aaaagtgaga tcagtaatga gctgtgttgt 9420 taacaatatt atctggtaat aataccatgc aatatagcgt tgtataccaa cttagtgcat 9480 tttatactgt attaaatatg gagatacttc taatgcctct ctaaaattaa attttacata 9540 aaagttattt tattcacctt taggctttcc aatgaattgt gactaatttt ttcaatctta 9600 catagatett teacceatta geattaetta egtagatatt etttatgeet agttattata 9660 catattaatt tttaaggtat acatttaaat tacacaattg ttcattgtgg tttgtatccc 9720 agaatgtgtt gtgtttttta aaagatgcat aatagctgaa tgtatgcatg actttgaaag 9780 aagttaaaat ggtgattttt tttcacctct tgtacatttt aaaaccaggc caaatctatt 9840

```
tgccaagcag tgtatcacta ataagaaaag cagtttttcc ttttattgca gtttttgttt
                                                                    9900
atctgccata gaatttcctt atactgtggc ttggtattat tcaagattag ctatttcgct
                                                                    9960
ggtattacat ctttttaaaa gcctattata acatggttag cctataaggc agtgttggtc 10020
cccttctaat attggcctca taaaggggtt ccactgtact ttccgcatat tactgtgttg
                                                                   10080
ttgttttcct ttgtggatat ataagcaaat tgagcttggg tgatttttat ggagacaata
                                                                   10140
attagacaat actgtataat tagttttact taatagatta tcatcttgtg agaagagatg
                                                                   10200
tttaaacgtg gtaaatcact tcatattaca aaacagtttt acacttaata tgttaacatt
                                                                   10260
gggtgcaata atttagtagc attagcttta gttacaaata taactggatc tttctgctga
                                                                   10320
caacttaggt tgtatgagtt atgcttaaaa gctttaaatc tgatgtttcc tgtacctgcc
                                                                   10380
acactatgtt agaatgtgtc cttcaaacat atcctcctgc aacttctcaa actgtactaa
attgatattt cttgaagtct aactctgtgc taacagatct ccattttaaa tagaatacgg
ttttaatttt tgataagctg ctgaatttta aagagagttt tttggggcca ccaaatattt
tggatcatgc agagaatata tattgtactg tagtaatttt gtatttacat ttgtatgatg
                                                                   10620
                                                                   10680
tgacataata gatgtgaatg ttaatcactg cttgactatg ttaataaagt tgtttaacta
                                                                   10685
tagat
<210> 12936
```

<211> 14889

<212> DNA

<213> Homo sapiens

<400> 12936

taatttccaa ggaatggaaa tcactttcac ctgtattagt ttgagatgct tgagaaatat 60 aatcacattt actgatattt tctcatgaaa aaaactatag attttattat taaattctga 120 aattttggct ggcttttgaa tgaaggttct ctaaatttgt ccatttaact gctcatctta 180 240 ttaacagaat gataccttga cactcgattg agcgagaaaa gcaatttcat catggttttt ggtgttctct caatctttag attttttaa ttccttttgt ttttcttttt ccaagagtat 300 360 gccatatatg ttgctgcccc ttattttagg gggtggtaat aaacagcact ggtgaaatct 420 tatgtttatt atcatacaca aattctgttg gtttctgttt ctgagttatt tgttgttttt 480 tetttatttt tteteettee eceteatttg eteatgtett ggttggegtt tggtggtgta taaccgtgat tgcgttacct tagcaataac aattggtcgt cttggttacg tttgtcctca 540 agaggtggcc cccatgctac agcagtttat aagaccctgg tgtgtattat tcaatctttt 600 tttttaattc atttttcttc actctttctt tctctatctc acttttagat atattttcag 660 ttggttacaa aaatcacaat cctttatcat tgccaaccat gtgactaatc ttgtcctatc 720 aggtttgtga ggtttttcaa tagcatcgtc atgtatattt attttatgtt gtggctaacg 780 actaattgat gcatgggata agattgtcac atgcttgctg tgttaaaaaa gcttgattat 840 acataaaaag catttaaata tccaccagaa aaataaagat gcatgcaaat tctataaatt 900 taggtttttg cattacgttt cttttttaga attaatttgg aaacttggat tgcattaaga 960 aatacatgtt taaatttgtt atgtataaaa atattatttg cttgttaatg taaaagttaa 1020 acatctacac cataagctat atagtaatag tttatattgt ggcactatat cctatgtttt 1080 1140 gcttctttca attgataatc tttcaattca aatcatttta gtagtgttta atggaataca agtcatgagt acaattttaa aagttaattt ggtaatttgt tcttcttggc tcaggctcat 1200 1260 taatagttta aatgggagat tcaaattagt tatctacttt ataaatgcaa tttattaaga aaatgtggat ttcactgttt ctactgtatt gagataagat gggcccaaca aacaggaagt 1320 atgagtaaac gaaactaaag ctttccgaaa aactctttta atataatcat tatctatact 1380 gtggtgctta ttccattaaa tactgtccat tagtattgtc attgaatctg cttgttactt 1440 aaatgctaaa ctcaattctg taattcaata ggtgcacctc tctgagaaac ataagagaca 1500 atgaggaaaa ggattcagca ttccgtggaa tttgtaccat gatcagtgtg aatcccagtg 1560 gcgtaatcca agtaagatgt tcacaaagat ttgtttttaa tgtctaatta ataaaatttt 1620 aaaggaagaa acattctaat actttaatta taaaaagtta actattttca aaggtatcaa 1680 aatacagtta aacctttaaa atgtatattt cttaatatct tgaaattgta atgccttttt 1740 tttttcctaa attttttttg tcatgaaatg agatagtaac agcagattgg gacaacaagg 1800 1860 ttatattctt gtcttgaatc aggccatggc ttctttcatc caaatttcag acctcattta 1920 tttactttgt ccctgcctcc catccctgga tatcagtttg tggatatcta cagttaatag agtgaccaaa tagtaggaat actgtctctc tattctgaat aaaatacttt gaatcagatt 1980 tagaaataat gaataaaata caaatcagcc attgaaattg ctctaatttt gagagcttat 2040 gatttattca tctttgtttt ccaagttcaa gttatatgta gacattttaa ttattcggca 2100 gtagtattga acatgagtcc agttaagcat ctggatccaa ctgccaattt tctagacaca 2160 caaaacaaaa acatgttgaa ttacaccatg tatattcagt gaacaaaatg ctaactgtgg 2220 gactctaggt taaatacctg gattcttcag cagacacgtt taaggaaaag aaagcgtgga 2280 aggaatcctg tagacaagag acccaagata catcaaatca attgaaaaac gtagttgagg 2340 ccgaggcagg cagatcacga ggtcaggagt tcgagaccag cctggtcaac atggtgaaac 2400 2460 cccatctcta cttcagataa aaaattagcc aggcttggtg gcaggtgcct gtaatcccag ctctcgggag gttgaggcag gagaattgct tgaacccggg aggcagaggt tgcaatgagc 2520 cgagatcgcg ctatggcact ccagtctggg ggacaagagc gagacttcat ctggaaaaaa 2580 aaaaaatgta gttgagggag ggaagcaaag aactaaattt tggtttccag gaatgcacac 2640 aagagttata aaactgcccc aaaaaaatgc ttttatagca ataactttct cacatttctt 2700 aattttcaag aaaattgaaa ctttccactc cgagaggggt gttttgaaca tttttaaatt 2760 gtgacctttt gatgtttcct agctcgtatt gtggtttttc ttaactcggt tttagaaacg 2820 ttaattctgt tttataaaat tcaaattgat acaggtgata gacgttgaaa acctacaagt 2880 tagaattaga aaataacttc tgactgattt cacactcata aaatattcat aacttactgt 3000 tagaacaagc cagtgccatc ttgagaggtt tctagttaca aaataagctt ttgacatttt ctgggttttt gtttttttt ttaatactta agaactttgt gtgatctcaa atgtgtgcta 3060 3120 gaggtatctg atatgacatg taccatcttt ttcaaaagta tcttccgacc aagattttat 3180 tgtttctttg tttttgaatt aatgttttaa gatgataaaa gtagcacatg tatgatcata 3240 aaattgttac caacttaaga gttggtagaa atttctgttt tataactttt attcacatac cttattttgg atatggttaa aataaaatgt cataggttta tttacattta aatttttaa 3300 3360 tcacaaattc tgggtatctg tgcatttaaa tttttaacat cagatttggt atttggaaga cataatttga ataaattgtg ttaagcaaat cttttttgct taaataaaca tacacacat 3420 3480 gtagtattac caaatttttt gaaattagtg aagttttctg aatataatag taaaatttat agttgacatg tcagaaaatc agcaatatgt tgaatgctgt ttgttgaact gttagtgttt 3540 cagtatgata ggcaagattg agaatatttt aatgaaatgc ttaaagcata ttattatctt 3600 gttcttatag tcagaatagc ctgattatct tttaagtaat tgtccaaaag ttgggttttt 3660 tgttcttgtt tggattgggt atttgtaatt acataattag tttttcttca attttttggt 3720 3780 tgtttcaact aagttatgtc tgaaaatgga ccttgaaatt actaatttct ctatttcaaa tcaaggtcat ttaatatata tttagctagc tttaatttct ttctaggcca gtcaaaactg 3840 3900 taagatcatt ggttttatgt ttttctttaa tccggtaaat gaaagagtat ttttatgggt gtcgatttgg tgctttcagt tcatttctga tgctgaacat ttattgcaca gggggttatt 3960 ttgttgtgtg atgcaggaca ttaaagtcca gtataaactg aatgagttga ggttccttga 4020 ctgtgggcta atagggacag ccattaaggt aatctcttct aattccttat gatcatagtt 4080 4140 aatttttaaa tgtttccttt tttaagctag attctattgt gacataaact ctgaggttta catatatctt ttgctgagtt tgacaaatac aatatcaacc taagatgtat ttcttgcttg 4200 4260 ttacaggatt ttatattttt ttgtgatgcc gttgcatcat ggattaaccc aaaagatgat ctcagagaca tgttctgtaa ggtaactaat aagtctttat aatgcatcat cttgagactg 4320 ttaatatcct agtggaaaac tttaaattat gtttacattt tttgtgaaag ttaggctctt 4380 caagtcagta ttgatagttt acatatataa cctttattct tggtaacaaa gttggcttga 4440 tetttetta aaatacagca gtgactetta tetgtagagg atgeaetttg aaagtatttt 4500 cccaagtgta ccactagttt aggtggtccc attattccat ttaaggaaaa tagtatatgt 4560 ttttcaagat ggaaatggag acttggagta taatctgaaa aagagtaaat ctaaatggct 4620 gccacaggag taagcccatg tcattatttg ctttgttaat accctctttt gattaactcg 4680 tcagtactca accacagtaa aaaataaaat gcagttacac atttgaatca cccaagatta 4740 aagttagtga actatagttt gtcgtgaact caaagcttgt gtatttgcag tttgaaaaaa 4800 tacgacataa aaattgtatt gcttggatga cttctctact ttatcttttc gttagtatgg 4860 tatcagagat tgcttagagt atatctgtta ctggaacact tgccaaagtc taaacttctc 4920 4980 aaagcagagt ttaagcatat gctatgaggt acttttaggc aaggcacgtg tattagtcca tattcacgct gctgataaag atatgcccaa gggccgggct cagtggctca cacttgtaat 5040 cccagcactt tgggaggccg aggcaggtgg atcacctgag gtcaggagtt caagaccagc 5100 ctggccaaca tggtgaaacg ccatctctac taaaaataca aaaaattagc taggggtggt 5160 5220 ggcggatgcc tgtaatccca gctactcagg aggctgaggc aggagaatcg cttgaaccca 5280 ggaagtggag gttgcagtga gccaagatca tgccgttgca ctccagcatg agcaataaga 5340 gtgaaactct gtccccgcca cacacacaaa aagatatgcc caagactggg taatttacaa aagaaagagg tttaattcga ctcacagttc catgtggttg gggaggcctc actgtcatgg 5400 5460 tggaaggtga aagacaagtc ttaaatcgca gcaggcaaga aagagaatga gaatcaagtg 5520 aaacgggttt ccccttatca aaccgtcaga tctcatgaga cttattcact accaccagaa 5580 gagtatagga aaaactaccc ctatgattca gttatctccc actgggtccc tcccacaaca 5640 cgtgggaatt atgggagtac aattcaagat gagatttggg tggggacaca gagccagacc atattagcag ggaatggtgt agaatcctac gaagtttgag aattgctact ttaaaatgga 5700 5760 taaaatttat aaaaaaatca gctgtgttgg atttcagaag ctatgctgat ctgaattttt 5820 ctcttgttat tgataaatta atggtttttc actcttacag atccttcatg gatttaaaaa 5880 tcaagttggc gatgaaaatt ggaggcgttt ctctgaccag tttcctcttc ccttaaaaga 5940 gcgtcttgca gctttttatg gtgtttaatc taatacactt aagctgcagt cccaaaatta

6000 ggggtaagtt ataagaagtt tggaaatttt caggatgaag aaaattttgt tagggctgtc atttcaaact actaaataga ataaaaagct atttgttttc tatagaggtt gaataaaaca 6060 6120 tagcctcata tcattctatc ttgggcttta aatttaaaat tacttaagtg ggccaggtgt ggtggctcat gtctgtaatc ccagcacttg gggaggccaa ggtgggcagg tcatttgagg 6180 6240 tcaggagttt gaaaccagcc tggccaacat ggtgaaaacc catctctact aaaaatacaa aaattagcca cgtgtggtgg gacgtgcttt tgtagtccct gctactcagg aggctgaggt 6300 6360 gggaatattg tttgaacctg ggagatgggg gttgcagtga gccaagatct tgccagtgca 6420 ctccagccta ggggacagag caagactcca tctcaaataa atagaaaata aaattactca 6480 agtgaaggct aaagaaattt tcttaataga accaacaagc ccagaaaaac gattagctcc 6540 agtttgaatc gtaggtataa agaaatccac gttggtacac tggttggatt tctcaacatt 6600 gcttcaacta ttccttttt ctttcttttt tcctgcaaga agacatcggc actcatagtg atggggtaaa attgatttca ttttggagca tgaatttata gtctctgctg taacaaggac 6660 ttttcatttc acgtgctttg aaagaaaact cagttgggtt ttggcccact gtttttgttt 6720 ttcactgtat gtttcactga gtacctacca tgtgcccatc acttttttt ttctttttt 6780 6840 tttttttttt ttttttttt ttttttttt tgagacagag actctttcgc ccaggctgga gtgcagtggc gcaatctgag ttcactgtaa tctccgcctc ttgggttcaa gcaattctcc 6900 tgcccgagcc tcccaagtag ctggcattac aggcacatgc caccatgcct ggctaatttt 6960 tgtattttta gtagagatgg ggtttcacca tgttggccgg gctggtctcg aactcctgac 7020 7080 cttgtgatgc acccacctcg gcctcccaaa gtgctgggat ttacaggcgt aagccactga 7140 gcccagtgcc taggactata ttttaaaata agcaatgaaa gattctgttt taatttggga 7200 tggactatat tcatttggac tcttgctcct tgagctcttc tgtacttaaa tgggactagc 7260 agttctcatc tctgagcttc ggttttgtca ttgagttatg ttgaggatta aatactatac tgtatgtgat gccagaactt agtatgttgc ctggcacact aagttgactc agtaaaggtt 7320 aggaactggg ccagtacaat aaatatcagg gttttgacat tcatctttag attttcaaca 7380 7440 tgaattaaga catatctgac tggaagccag aagatgtgct gaatgagcat gtacagaaga tgtacaccaa gttgaattac actttagatt gaattggagg agtttttttg gcttgcttgc 7500 ttgcttgttt actccaagct aaaatttaaa tctggaaaga tttcaccatc caagctgtct 7560 aacctagaag gtagtagaaa tggactcaaa gcttccagaa tgtgtcagag cccttcatat 7620 gtgttgtcct acttcagtct tgagtcctca agagctgttt tccaaaatgg ctttggcatt 7680 7740 ttggaaaagt gctggattca ccttatgtta aattatgaga atgcaaaaga tgagaatgac 7800 ttgtagcttc aaagcttcaa tgagctacta acaagtcttg agcactttca gatttattac ctctgtggtc tcatcaccaa tcatgaatta actgttctaa gacaaggtat gaaatagttc 7860 tcggttttgt aattagagct aaaagtagat cagtatcttt tattcctgcc tttttgtact 7920 cctcttcctt ttcttcagag gcaggagaaa agggattgct tatatttcta cacagatgga 7980 8040 ttaactgccc tctgtgaatt cacatgaacg ttcataaatg gccaaaactt ggcatgattg 8100 ggtagtagag ttctgtttgt aaaaggacca ctatcaggta acagtttaaa tctcccagta atcttacctt atttcttaat atccttttta tcattaaaac tgtttagcat agaaaaaagt 8160 8220 tcctaccaga aaaaccaagt gactggaaga tagtggaaat gaccaagtga aataggatca 8280 gaatgggaac taattaggaa catcaagaag gcaagtgtag gcagggtgtg atggcccaca 8340 tctataatcc tagcattttg ggaggctgag gtgggagcat tgcttgagcc caggagtttg agacctgcct gggcaacatg atgagatctc catctctatg aaaaaaatta aaaagaaaaa 8400 aatgagctgg gcatggtggt atgtacctat ggtcccagct actcaggaga ctgggcagga 8460 ggattgcttg agcccaggag gttggggctt cagtgagcca tattcacacc actgcgttcc 8520 8580 agcctgggtg acagagcaag gtgctatctc caaaataaat aaataaatgt taaatttgct 8640 tttttctctc tctcttttt tatgtagaat ttgtttgttg atacttactg aatgtagtga 8700 ccctgctgtg gtaatgaaca cttctagtgc cttctaggct taaaatacca gacaacccca 8760 aataacaaat gctcttttgt gttttgatag gttggatttc tgtttgctta atattgggaa tactggggga aaaaaagatg gtgttttcat tctaaggatt gtcctaaaga aagtgctact 8820 8880 ttatttttaa gaaagtaagg ccacttgtta tataagaaat aacaagttcc cattgggtcc cattttgcaa aaggggataa agaattagac tgatagcatc atacgaggca tatttcacta 8940 9000 tacaaagtgt tgtacacctg tctatacaac tctcctaccc agcttgacct cacttttcat 9060 acctgatgca gcaaacaatt cagtgccata ggagaaggaa gcagcatggt tataagtgac 9120 taacacgata ttaggcaatt tgtccaaatt tctcattttc tttataggta aagatagcat tcttatttga ttaatttttt gttccactgg ctttgaaaga caaacgattg ttaaagataa 9180 aattgttttt gttctttttc ttataggtcc ttcagtcttg gagactataa gggagcctct 9240 9300 gcacccaggg aaaatgttac cctttacagg ggggaagggt aaaccagtag ggaatacagt acaatcccaa ccctactggg aggggcggga gggaggtgtt gccgtcactg tattaagtcg 9360 9420 atgttgggaa acgttttaac atctggagcc tttgtgggtg gaaatatgtc tccagttaca 9480 actccgcagt ggatgtgaag aagcaaaaaa aaaaaaatct attcagtcta ctcacaaaac agtacattgt ggaatattat ggggaattgt accaaaacaa gaaccatata aatgatgcct 9540 agggacaaga aagaggaaca attctatagc gcacaataaa ggaaacctaa gaatgggagt 9600

```
9660
9720
cccacatgat ggggccttgt tttgcatgtt gatgaagaac tacacaaaga aaactaatat
agttaaaagt cagcttgcct tcccgtagta gaagcaggtt cttggaagtt acaatttaag
                                                                  9780
                                                                  9840
gtaccccaaa aaagttggaa ataaaacaaa acaaacataa acaatgaagc accctgtgaa
                                                                  9900
atgccaaatg agtcactcct tttacctttt ttggggtggg cagggaggga ggaataaatg
                                                                  9960
qqqttqqqca tatcaaacta aagatgacat cttaattttg cattgaacat taatgtagcg
                                                                 10020
gatataattt gatgattata etteattaga tttaatttet aggeeaagat gttaettttt
aaagtgcagt ttaaggttca ggcatgcatt ctggctcata gtggttgaaa gtaatttaaa
                                                                 10080
ttagtgggaa agtagcatgc ttgcatcaca tagagtgaga ttggtattca tttacctatg
                                                                 10140
ttgcgccagt ttgtgttgca gtttaccaat tcaatatagc cctgcattta aagttccttt
                                                                 10200
ttaagatttg tggattttat ttttattaag aacatagata tataaagtac tgtagtttac
                                                                 10260
10320
gtgtaacctg cacaatgtgg aaagctgata tacctgtgca aaatctttgc ctctgtgctg
                                                                 10380
tcagtgtgat gtgctttctg catggttata tactactagt gattttatca aaacttctaa
                                                                 10440
aatttaaatt acgtggtaaa agatctgtaa aaggctgcat aaatgttagt tggcacataa
                                                                 10500
agacaattgt agaagttgaa aaatgattgc tatatttcaa tgtttattcc cactcaacat
actgccttct aagcttccct ttttttgttc aaagcatgat cttaaagata tgtttaagtt
aatggatgta atgcagggtt cctacactgt attttggcgc atgttggtgg ccctctgtgc
cctagatata tgcacacagg gtgcaagtta aaagctacag agtgaaagtt ggtttggatc
                                                                  10740
ctcttcattt catttgttta gcttttctgt tatttttctc tacttacatg tattcctgtg
                                                                 10800
aataaatcct tgttaagtta accctttact tttccttcca tgtgtatttt cttatatact
                                                                  10860
gtgaatgtga aaacctaact ggtacacttg atcttgtgtt catatgaaag tgcaagtctt
                                                                  10920
                                                                  10980
tattaatttg gattgcctga acagtgtatc ccatgatgat gaaggaaaat ggagagattt
ttctttttaa ctctgctggt cagagatgaa gccacgcctt tccatttttc aatgctgcat
                                                                  11040
                                                                  11100
atttaatctg caacaaaaat gttaagccat aacagccttt ttatatttta gtttgtcacc
                                                                  11160
tttgcattgc agaataaata ctgaataacc atttttataa gcagttgctc ctctttgcat
                                                                 11220
ggttctattc tctaaaagtg ttgaatgata cagccattgc actgaagttt gagctgtgtg
cgtgtgaatt tatactgttt caaaaatttc aaatgcatgg tagcatgtag aaaggttttt
                                                                 11280
                                                                 11340
gttactatgt gtgtgtgt gttttgtttt gttttgttct gtttttaac gttctttcac
ctttcctcta ctttggcttt gcaaatttca gtctgtagag cctgaaatta aattatttta
                                                                 11400
tagtgcctga tatttttaat attataagtt ggattcaaag ggtatacagc attttgtttt
                                                                  11460
ctagtaccat tgcttcactg ggagctcaaa atttgcctcc ctgttagtct ttaataactg
                                                                 11520
agtagagtag cttttttatt cttagattat agtgatattc tgtagtgctt caaatactta
                                                                  11580
gaattctaat atgagagata gtttaatatt ctggaataga gagtatttta aattgaaatg
                                                                 11640
accaaattcg atttaaaaca aacacataac aatcttcagt aaagttattt gaacctgtgg
                                                                 11700
                                                                  11760
ttgacaattc tgtattgact aaaggcaata ttgtcacctg tctcattaaa aattagtttc
cagttaggca gatgaataac actattaaaa atgcacccag ttttgtagtc acttgacttt
                                                                  11820
ttttttttat ttaaatgaaa tttaatttga aaatagaaaa taaaattagg taaatatgac
                                                                  11880
tggcaacctg aatttgagtt gggattcttt gtgtattttt cccccttgag gttattgttt
                                                                  11940
cttcctaatt tatatttcag atacatagtg tagaacagga atttgcagaa gccatttaag
                                                                  12000
ttatcttttg aggtaagctc tgatttagca tttattctga taaaatctaa tacatcatgg
                                                                  12060
gatatatata aagcaactta attcttgtgg tgtagtctta atagttttga atgttgactg
                                                                  12120
aatgtctata aaattgtgag tttgtctttg ttacattcca gtgtttctgc ctcttggcat
                                                                  12180
gcttaaagca cggcttactt catctgctcc ttacacacta aaatgctgtt agtgtgctca
                                                                  12240
actacagaaa tagccgctgc taagtgatgt agattttcta cttgaatatt tttatgttgt
                                                                  12300
aggaacctca ggaggtcagt gtttactgtt ttatatatgc cttctttttc ctgtttgagc
                                                                  12360
ttctctcttt gaaggattct aacagaacaa agctgctgat caacctaagt tggaaacaga
                                                                  12420
aagtgtaatt aatataactt aaatgcatgt ttggcagttc catgttacag tccattagcg
                                                                  12480
agtgaactta gtgccacagg tattcattta ttcaggaaag aattttgctt tttgtattgt
                                                                  12540
ctaatctctt caatgacttc atactgtgta aaaaaaaatc actttttaat attttttggt
                                                                  12600
tggttatttc ccaaataatc aacatgtaaa taatctttta agagccagtt ctgatgcttt
                                                                  12660
acattattgc tacttgattt tgttatgcaa gttagatttc agaagaatag attttaaaac
                                                                  12720
acttaaccaa gccattacat cttaaaaaca aaacaagtag catacatttt gtaattaaca
                                                                  12780
ttgataaaca ctgtgatttt tttggttaag actttttcat tgatctgaat tgcttaaatt
                                                                  12840
gcatatattg taaaatagga tcagatgtat attttaaact aatttcaatg gattttcctc
                                                                  12900
ttgaaatgct ttgtctactc agttataaaa tattcagata caagttttat ctcaggtgaa
                                                                  12960
tactcttgta ttgtttttgc tttggtgaca tgcttataaa gggtcatcct agttacattc
                                                                  13020
tttgtttttt aagtgtattt cattgagaat ctttccattt agtctgattt ttttcctaat
                                                                  13080
attctagcag gctggggtgg tataaagccc tcctgacaag ccttttgcct acaggtttac
                                                                  13140
ctgaaaatga gctacatatg gtcgtcattt tcttcaaact ctcaaaatag gaaagtggaa
                                                                  13200
atttttctcc cctatataaa attattctgc ctagcagaaa tgccagaaat aaattaattg
                                                                  13260
```

```
catcttagtc taaatttaag tcctttgcca tgaggaaaaa gtggtttttt gcttcatatg 13320
gtaaatctat attattcata ttgaatgtat taacagataa tggtgcaaaa gcattcttcc 13380
caggggaaga gtgtatcatg cataactgca atttaagtcc ttcctttgat aatacttcaa 13440
aacatacaca gctttgctta ctgaattatt tttgcaaata atacaaggag gggaaactaa 13500
cttgctacta gtgttgttaa tgaagtatag gccttggaac atttaagaaa actggtcttc
agatagttaa gggcttggga taatttaagt gaaaagtgag atcagtaatg agctgtgttg
ttaacaatat tatctggtaa taataccatg caatatagcg ttgtatacca acttagtgca 13680
ttttatactg tattaaatat ggagatactt ctaatgcctc tctaaaatta aattttacat
                                                                   13740
aaaagttagt tttattcacc tttaggcttt ccaagtgaat tgtgactaat tttttcaatc
                                                                   13800
ttacatagat ctttcaccca ttagcattac ttacgtagat aattctttat gcctagttat
                                                                   13860
tatacatatt aatttttaag gtatacattt aaattacaca attgttcatt gtggtttgta
tcccagaatg tgttgtgttt tttaaaagat gcataatagc tgaatgtatg catgactttg
aaagaagtta aaatggtgat tttttttcac ctcttgtaca ttttaaaacc aggccaaatc
tatttgccaa gcagtgtatc actaataaga aaagcagttt ttccttttat tgcagttttt
                                                                   14100
gtttatctgc catagaattt ccttatactg tggcttggta ttattcaaga ttagctattt
                                                                   14160
cgctggtatt acatcttttt aaaagcctat tataacatgg ttagcctata aggcagtgtt
ggtccccttc taatattggc ctcataaagg ggttccactg tactttccgc atattactgt
gttgttgttt tcctttgtgg atatataagc aaattgagct tgggtgattt ttatggagac
aataattaga caatactgta taattagttt tacttaatag attatcatct tgtgagaaga
gatgtttaaa cgtggtaaat cacttcatat tacaaaacag ttttacactt aatatgttaa
cattgggtgc aataatttag tagcattagc tttagttaca aatataactg gatctttctg
                                                                   14520
ctgacaactt aggttgtatg agttatgctt aaaagcttta aatctgatgt ttcctgtacc
                                                                   14580
tgccacacta tgttagaatg tgtccttcaa acatatcctc ctgcaacttc tcaaactgta
                                                                   14640
ctaaattgat atttcttgaa gtctaactct gtgctaacag atctccattt taaatagaat
                                                                   14700
acggttttaa tttttgataa gctgctgaat tttaaagaga gttttttggg gccaccaaat
                                                                   14760
attttggatc atgcagagaa tatatattgt actgtagtaa ttttgtattt acatttgtat
                                                                   14820
gatgtgacat aatagatgtg aatgttaatc actgcttgac tatgttaata aagttgttta
                                                                   14880
actatagat
                                                                    14889
<210> 12937
<211> 607
<212> DNA
<213> Homo sapiens
<400> 12937
gtcttgagca ctttcagatt tattacctct gtggtctcat caccaatcat gaattaactg
                                                                      60
ttctaagaca aggtatgaaa tagttctcgg ttttgtaatt agagctaaaa gtagatcagt
                                                                     120
atctttatt cctgcctttt tgtactcctc ttccttttct tcagaggcag gagaaaaggg
                                                                     180
attgcttata tttctacaca gatggattaa ctgccctctg tgaattcaca tgaacgttca
                                                                     240
taaatggcca aaacttggca tgattgggta gtagagttct gtttgtaaaa ggaccactat
                                                                     300
caggtaacag tttaaatctc ccagtaatct taccttattt cttaatatcc tttttatcat
                                                                     360
taaaactgtt tagcatagaa aaaagttcct accagaaaaa ccaagtgact ggaagatagt
                                                                     420
ggaaatgacc aagtgaaata ggatcagaat gggaactaat taggaacatc aagaaggcaa
                                                                     480
gtgtaggcag ggtgtgatgg cccacatcta taatcctagc atttcgggag gctgaggtgg
                                                                     540
gagcattgct tgagcccagg agtttgagac ctgcctgggc aacatgatga gacctccatc
                                                                     600
tctatga
                                                                     607
<210> 12938
<211> 607
<212> DNA
<213> Homo sapiens
<400> 12938
gtcttgagca ctttcagatt tattacctct gtggtctcat caccaatcat gaattaactg
                                                                      60
                                                                     120
ttctaagaca aggtatgaaa tagttctcgg ttttgtaatt agagctaaaa gtagatcagt
atettttatt cetgeetttt tgtacteete tteettttet teagaggeag gagaaaaggg
                                                                     180
attgcttata tttctaccca gatggattaa ctgccctctg tgaattcaca tgaacgttca
                                                                     240
taaatggcca aaacttggca tgattgggta gtagagttct gtttgtaaaa ggaccactat
                                                                     300
caggtaacag tttaaatctc ccagtaatct taccttattt cttaatatcc tttttatcat
                                                                     360
```

```
420
taaaactgtt tagcatagaa aaaagttcct accagaaaaa ccaagtgact ggaagatagt
ggaaatgacc aagtgaaata ggatcagaat gggaactaat taggaacatc aagaaggcaa
                                                                      480
                                                                      540
gtgtaggcag ggtgtgatgg cccacatcta taatcctagc attttgggag gctgaggtgg
                                                                      600
gagcattgct tgagcccagg agtttgagac ctgcctgggc aacatgatga gatctccatc
                                                                      607
tctatga
<210> 12939
<211> 315
<212> DNA
<213> Homo sapiens
<400> 12939
                                                                       60
attttgtgct atacctttaa tagcagaaac agaatattta ttttttcctg tggtccacat
atcatatgtc attgcagtgg actgtaaatt tcctttatta gaattttatt tcaaacatgg
                                                                      120
cttaaagtta gtggactgtt acctgagtta tcagaggttt gacaacatga gatttgacat
                                                                      180
tgtagcatag caatattcta atccattcat tcagtgagta ccatgagact taaaatctga
                                                                      240
                                                                      300
cagttgattt tgatgtaagg taacaaattt ccactggttg gtttggcaaa tgttaatcaa
                                                                      315
agaaaaaatt tttga
<210> 12940
<211> 1432
<212> DNA
<213> Homo sapiens
<400> 12940
                                                                       60
ctataccaag tttctcattt gtgagatgga ggtattattt acttcgaaat ggtaaaggga
                                                                      120
aaacaagcaa aagcatttgc aaatgctctg taagtaaacc tatatcatga atgtattttc
                                                                      180
ttggccagaa gtactggtac agaccgttaa gtatggaggg ataccagggc agtcaagacc
                                                                      240
tgcactgggt acatagaaac attttggctt ggttagacag tctctgtttc ctgtaccaca
                                                                      300
ggttttcctg acagcctgtg caagttagga cttttgatct taatatttgt acagcttgtg
                                                                      360
agttaggtga attatttcca ccaaacaaaa cattttacga atataagcat ccagatggcc
tatctcaact cccatggccc ccaccagaca ctatatcaat atgtttctta tcagttttga
                                                                      420
                                                                      480
aattttctcc ttaagtttca tttagcatat tgctgaaagt gggttaaaga ggcccaatta
                                                                      540
gtgagatccc agctgggact tttagatggg aaatatgcag gattgccaga tgagatcatg
                                                                      600
ggcctgatct agtgtttatc tgttaaatct gtttataact gcttaactct tgacttgcag
                                                                      660
acttttaagg cagccatttg acgtcacagg gttgggaacg aggcttgtgc cagtataaag
                                                                      720
ccgctgtgat gtggggccat tgggcccttc tgtttttctc aactatgtgc atgcactttg
                                                                      780
qaqcttgaca aacagccgtg tccagtgaac tccccccaaa gaaaattgaa gttgactcac
                                                                      840
cgtgaaaggc ataccaccaa aagtgactcc taacccatgt acaattcaga aagaaagcac
                                                                      900
tagttaacaa gtgcccagtg tgtgattatt tagttctaga atctgtccag attttctttg
                                                                      960
ttctggctct gttctcttca tggtggccct gcagttttta gatgttataa aacctcccta
                                                                     1020
cgattataat agcatgtaag ttaaaagttg ttgtgaaaaa acaaatgaag atgcatttat
aagtagtett cagtetttge etgaagaaga gtaagttggt tatttgaatt tatgaageat
                                                                     1080
ttacatagga aactagaaaa taaaacacta ataaaagcgc cttgccagga gcagtggctc
                                                                     1140
                                                                     1200
acgactgtaa gcccagcact ttgggaggct gaggtgggca gatcacctga ggtcaggagt
tcaagaccag cctggtccaa catggtgaaa ccctgtctct cctgaaaata caaaatttag
                                                                     1260
ccaggcatgg tggtagcctg taattccctt aggagactga ggcacgagaa tcacttgaac
                                                                     1320
                                                                     1380
ctaggaggcg gaggttgcag tgagccaaga tcgcaccact gcattccagc ctggatgaca
gagcgagact ccatctcaaa taaataaata aataaataac ataaacaaaa aa
                                                                     1432
<210> 12941
<211> 9925
<212> DNA
<213> Homo sapiens
<400> 12941
gatagaataa ccaatttaaa atgtcttata gataaaatct agaatgaagc tttggtaaga
                                                                       60
agtctgagct acgtacataa gattatcagc aacatatatg ttaaggtgga gccatttaaa
                                                                      120
```

```
180
gaaagaacag aagggaccta tgatttactg attgttgaaa atcaaaataa aggaggcaga
gaaaataaag attgtgagtc agcaggactt ttgtcttatt ttcaagtgga tttattgatt
                                                                      240
acttttcttc ttacagccaa gtgcaagatc tgtgaatggg cgtttgaaag tgagccacta
                                                                      300
                                                                      360
tttctccagc atatgaagga tactcataag cctggagaga tgccttatgt ttgccaggta
ttgccttttt ctccagggag ttttagcagt tttgccctca ggaagaatac aaagaattta
                                                                      420
ctaatgaata ttgttgacca cctactgcat acactcagtt taggaactct gagtaggtac
                                                                      480
                                                                      540
agaagaaata gtaaacacag tttatcttca gggtttccat gcaggagaaa aacataaaag
aacatgtcca caagtagact agccgggaac atgtgcatat tctaagggag tgtctgtctc
                                                                      600
                                                                      660
ctgaacgtgc cctttggaaa ttgacagaaa aggctttatt tttcttagtt agagaacatg
                                                                      720
gattattett agaetttetg teeetteeta titttaaagt aatagetaaa eetateacaa
acatagecca geattacaaa gteaggaaaa taatttgatt tetatgeatt tgagaaaaet
                                                                      780
ttttttttt aatttaaaaa tttttgttgc tacctttttt tttaaggcct ctcagttgtt
                                                                      840
                                                                      900
cacttcattc ttagccttat tttccctcct atgtgactca ggtgtgtcaa tatcgctcct
cactctactc tgaggtagat gtccattttc ggatgatcca tgaggatacc cggcatctgc
                                                                      960
                                                                     1020
tctgccctta ttgcctgaag gtcttcaaaa atggcaatgc attccaacag cattacatga
                                                                     1080
ggcaccaggt actaggcacc aagcaattcc catattctct tgtttttttt tttttaaac
                                                                     1140
atggatgctg gggccagggc tgagctaggc aaataatttg ggcagagatt ataatatgca
                                                                     1200
tatgtttgca gaaatttatt gaattcactt aatgtgccat gtactagtct agatgctaga
gatttagtag taaacaaggc aaacaataca ataaaacatg aagagtactg tgttggggaa
                                                                     1260
attataggat atagaaaatc acatagctat tctgggtgcc tagtaaggct tccagaaaga
                                                                     1320
                                                                     1380
agtgttgttc aatacctgag ggatgaataa gaatgagcca gatgaaataa gacgaagaac
                                                                     1440
agtgtgccca aggcacaaag caaaattgtg gaggttcaag aaattgagag agattcagtg
                                                                     1500
tagggtgtaa gagacagagg ggttggaagt taggcaggga cagatcatgg aggatctttt
aagccatgaa aagaattcac tgggaagcca ctaaaggggt tttaagccct ggagtgatgt
                                                                     1560
gttcagcttt agttaaggct ttatactgcc tgcactgcag agaatggatt aaaggagatt
                                                                     1620
gagactacag ttagggaaac tagctagaag gcctttttca gtagtttagg tgagagatga
                                                                     1680
                                                                     1740
tagtggctat tggcttttga aataaaaaga gggtagagtt gagagatatt cagaagattt
gtgatattta tgatgtagag atggattagg tgaaggtagc aatgcagtag ttaagaatag
                                                                     1800
                                                                     1860
tgcctaaaat tctgtcttgg gcagttgggt gaatgaggga actatttgct gaaatagaaa
                                                                     1920
caatagagaa agtatatttg tgagggggga gatcatgagc ttggatattg taagttagca
                                                                     1980
gtatctgtgg atgtcaagtg tagctgttgg ataatagatc tcaagcctgt gagagaactc
                                                                     2040
tgggttgtag aaaagattta ggaatcagcg ttatataaat cctatagatt ttaaacttaa
                                                                     2100
ataccatggg cccccaacc ctgttgagaa taagagaagg cttaggatat ttgaagtccc
                                                                     2160
ttatctataa agcaaccacc atagtactag gaggaaaacc agaagagtct taaccttaag
                                                                     2220
gaaactgggg agaagaaagt gttttaaaga aaagggtgtg atcaaaatgt catatgttac
                                                                     2280
aggaaggtgt caagcaacat agagacttag aaacaggcct ttaatttagc aacattgatg
agagccattt tgttggttgg tagggtggaa gtcacatttc agcagaacaa atgaatgaga
                                                                     2340
                                                                     2400
ggtaaggaaa tgaagacgat gtatttaaag aagtttattt ataaaaaggg aggacccagg
                                                                     2460
gtaggtaaat ccagaggaag aagtggcaaa gaagagtttt ttattgcttt tattttcctt
                                                                     2520
ataagatgaa aagctatgac ttcgttttaa aatactacaa gaagagagcc actagaggag
agtgaaaggt atatagtata taagagagga ttcaaaatgg agaataagat gagtgcatgt
                                                                     2580
gtgcttaata gtcacataca tatgcacaca aacatatgta ccctattaca ctcatagtct
                                                                     2640
                                                                     2700
cctttgcaca gtagtgactg ctgattgtct accacaactg tatttccaaa taggggcatg
                                                                     2760
gaaattgtct cttagcctaa gcttacagag ctttgttatc ctactaaaga aaatcataga
                                                                     2820
catgggttct atttttgaag gacttcaata ctaggcagac tgaatcctca aagtggtctc
                                                                     2880
accaggagac atatctgtat atactgatgt gttaagtgag aaaacagcaa ggtatagaca
                                                                     2940
agtgctatca tttgtgttaa aaggagaaaa agaagaggc tgaggtggga ggatcacttg
                                                                     3000
agcccaggag gtggagtcca gcctgggcaa catggtgaga caacatctct acaaaaagga
aagggaaaaa agtaagggcc aggcacagtg atgcacgcct gtaatcccaa cactttggga
                                                                     3060
                                                                     3120
ggccaaggca ggtagatcac ttgaacccag gagttgaaga ccagcctggg caacatggtg
                                                                     3180
acaccccgtc tctacaaaaa aatacaaaaa gtagccgggc gtggtggcac gtgcctgtag
                                                                     3240
tcccagctac ttgggacgtg cagtgagcta tgaacatgcc actgcactcc agcctgggct
                                                                     3300
acagagagag accctgtctc aaaaaaaggg ggcgaggcag gtaatgattg gatatgaatg
                                                                     3360
tatttgtgat acagttatat gtgtagactg cccacgaaag catactcagg aaactggtaa
                                                                     3420
taagttgttt gtatggaagg ggactgagtg ttggagttga aagcaaagtt ggaagagtat
                                                                     3480
agaaaaaaaa gtatgacttt agtttactat gtacattgtc cttttttaaa aaaagaagaa
                                                                     3540
tgaagaatgt ccagaagaat gtccagttgt cagcagtgta aagatataat acaaataaag
                                                                     3600
gttacatcac tcattcaaat tgttaaaaca agtcaggaaa ggatgatttg agaacttagt
                                                                     3660
catcctggac tagaatccat ctttctttga tatcatggga ggtgatgatt ctcaatggta
                                                                     3720
ggttttgtgg tcatgttgca tatttctttc ttactctctt aaattatcaa cagaaaggtg
ggaagaatga tatggttgac attgatctgc tttctcctca aaaaagaaaa tttattagga
                                                                     3780
```

```
3840
acctttaagg gattttgtct ctttttttcc ctcccccact tcagaagaga aatgtttatc
                                                                     3900
actgcaacaa atgccggctg cagtttctct ttgccaagga caaaattgaa cacaagcttc
                                                                     3960
aacaccataa aaccttccgt aaacccaagc agctggaggg cttgaaacca ggcaccaagg
                                                                     4020
taaagagttt gccagtgtct tttataggcc cagggaggga ggaatagaga ttttcagtat
                                                                     4080
tctqaaattt agtgtgggtg atgtctcatt gttacttccc ttggttctca ggtgacaatc
                                                                     4140
cgggcttccc gagggcagcc acgaactgtt cctgtatcct ctaatgatac acctcccagc
                                                                     4200
qccttqcaqq aggcagcacc gctgacctcc tcaatggacc ctctgcctgt cttcctttat
                                                                     4260
cccctgtcc agcgcagcat ccagaagaga gctgttagga aaatgtcagc gccttcttct
aagtgctggg cgggtgggga ctgggtggcc aggattattc ctgatacaca gtgcaatctg
                                                                     4320
qtaqcttttt aqcaqggttt gttgtctgaa aatcctacat tttggggacc catgaggcag
                                                                     4380
                                                                     4440
taatgagaat tettttttt tetececeae aggagtgtea tgggeeggea gacatgeetg
                                                                     4500
gagtgcagct tcgagatccc agacttccct aatcatttcc ctacttacgt acactgctct
                                                                     4560
ctgtgtcgct atagcacctg ctgttctcga gcttatgcca accacatgat caagtaagtt
ggtttttaac cagtgtttta gcttgagagt tcagattctt tttttcttct tcttcttct
                                                                     4620
                                                                     4680
tttttttt ttttttgaag acagggtctc actctgtccc ctaggctgga gtgcaatagc
atgatettgg etcaetgeaa eetctgeete etgggtteaa gtgattetee tgteteagee
                                                                     4740
tcccaagtag ctgggattat aggtgtgcac caccatgcct ggctgatttt tttgtatttt
                                                                     4800
tagtagagac ggggtttcac cttgttggcc aggctggtct caaactcctg agctcaggtg
                                                                     4860
                                                                     4920
atccacctgc ctcggcctcc ctaaagtgct gggattacag acatgagcca ctgcgcccgg
                                                                     4980
ccccagccag attcttgagc actcatttca ttttctcccc tgcttctaat atgtttcctc
cttcaactct tagagctatt tgttcttctc tcctagcaga gtgagaggct ctgttttttc
                                                                     5040
                                                                     5100
ggttttgatg gtctgtgctc taatttcata gggccttgct attcaagtac cagtagtatt
                                                                     5160
aggtgggagc ttgttagaaa tgctgactct cagccccgcc ctaggcctac tgaaccagaa
                                                                     5220
tgtgaatttt aatagatcct cagtgacttg tatgcatatt aaagtttaag aagcatggtg
                                                                     5280
acaggaaaac tggcttaggt tgagattagg gtgcactgaa gaagtgtctc ttttgttggg
                                                                     5340
ggcattgtca ctggctggtg atctctagct tagccagcag aactccgtaa ctcataccac
                                                                     5400
ttctttgtct ttctcagcaa tcatgttcca cggaagagcc ccaagtattt ggctttgttt
                                                                     5460
aaaaattctg tgaggtaaga aaaaacttat tggcagcatc ttaatttttc aggtttttac
                                                                     5520
attaattttc aggtttttca ttatttggag aggtggttat gtgaattaat ttcagaaaaa
                                                                     5580
ggagaaagtg ggagggcatt ccttttcttt cttaagcctc aaagcttaat ggtctcaagt
                                                                     5640
gtcactgctg tgtttgtctt acatagtctc aattctcttt tttagtggaa tcaagctggc
                                                                     5700
ctgcacttca tgtacctttg ttacctctgt gggcgatgct atggccaagc atttggtatt
                                                                     5760
caacccctct cacagatcca gcagcatcct gccacggggt aagtaggaga gaaggggatt
agttgagcaa ggggaggaaa aaagatacag gttcgtactg tatgcatcag gagcatacct
                                                                     5820
acttggcctc actcattcac tgttgagatg tgctggacct aattagaaac cttccgacct
                                                                     5880
gaagtttata taaaactggg aaagctggtc actgcgaaca gcgtatttgt atgtagtaag
                                                                     5940
ttgaatccca gggcactgtc tttggagggc ttattttttc actgagctaa ctattttgt
                                                                     6000
tgtttcattt tccataggac tcacttggat agctcactca aggtaacaaa aactcacctc
                                                                     6060
acaatttaat ttctggtttg cagtgtgttt actctgttat tattattatt attatcatat
                                                                     6120
tattgtttca atttcctagt tgaactgaga tttctcctct tctctttgct cctcacccct
                                                                     6180
                                                                     6240
ttaggcatgg ccagactcgt gaccgagtgc atgaccggaa cgtgaagaat atgtaccctc
ctccttcctt ccccactaac aaagctgcca ctgtgaaatc tgcgggggcc accccagctg
                                                                     6300
agcctgaaga gctactaact cccttagccc cagcactccc atcaccagcc tcaactgcaa
                                                                     6360
ccccaccacc aacccccact cacccgcagg ctttagccct tccaccgctg gctacagagg
                                                                     6420
                                                                     6480
gagccgaatg tctgaatgtt gatgatcagg atgaagggag cccagtcacc caagaacctg
agctagcatc aggtggtggt ggtagtggtg gagttggcaa aaaggagcag ctgtctgtga
                                                                     6540
agaagetteg agtagtactg tttgetetat getgeaatac agaacaggea getgaacact
                                                                     6600
tccgaaatcc ccagcgacgt attcgccgtt ggcttcgacg tttccaggcc tcccaggggg
                                                                     6660
agaatctaga gggcaaatat ctgagctttg aggcagaaga gaaactggct gagtgggtgc
                                                                     6720
taacccagcg cgaacaacag ctacctgtaa atgaggagac cttgttccag aaggccacca
                                                                     6780
aaataggacg ttctttggaa ggggggttta agatctccta tgagtgggct gtgcgtttca
                                                                     6840
tgctgcggca ccacctgact ccccatgccc ggcgagctgt ggcccacacc ctacctaagg
                                                                     6900
atgtagcaga gaatgcagga ctcttcattg attttgtaca acggcagatt cacaaccagg
                                                                     6960
acttaccctt gtctatgatt gtggctattg atgagatctc tttgttcctg gatacagagg
                                                                     7020
tgctgagcag tgatgatcga aaggagaatg ccctgcagac agtgggcaca ggggaacctt
                                                                     7080
ggtgtgatgt agtcctagcc attctggcag atggcactgt ccttcccacc ctggttttct
                                                                     7140
                                                                     7200
acagagggca gatggatcag cctgctaaca tgccagactc catattgcta gaggcaaagg
agagtggcta cagtgatgac gagatcatgg agctgtggtc aactcgagtg tggcagaagc
                                                                     7260
                                                                     7320
acacagettg ccagegeage aaaggeatge ttgtgatgga etgteatege acteaettgt
                                                                     7380
cagaagaggt actggctatg cttagtgcct ctagcacttt gcctgcagtg gtcccagcag
gctgtagctc caaaattcag ccattagatg tatgcatcaa aagaactgtc aagaacttcc
                                                                     7440
```

```
7500
tgcataaaaa atggaaggaa caggctcggg aaatggcaga tactgcatgt gattctgatg
tcctgcttca gctggtgctt gtctggctgg gtgaagtgct aggtgtcatt ggggactgtc
                                                                     7560
cagagetagt teagegetee tteetggtgg etagtgttet geetggeece gatggeaaca
                                                                     7620
                                                                     7680
ttaactcacc tacaagaaat gctgacatgc aggaggagct aattgcctcc ctagaggagc
                                                                     7740
aactgaaget gagtggggaa cattetgagt ettecaetee aegaeecaga teateteetg
                                                                     7800
aagagacaat tgagcctgaa agtcttcacc agctctttga gggtgaaagt gagaccgagt
                                                                     7860
ctttctatgg ctttgaagaa gctgacctag atctgatgga gatttgagtg ttggggtcat
                                                                     7920
tagggggtgt gcagtggggg tggaaacatg tgagggaggg taaaggggct tagggaaaag
                                                                     7980
ggggcatacc aggtggggta tttggtttct attttttaat tttataccac cactccccc
tgaagttgac ttacacttcc ctgtggattt gtggattaat taggaaaacc aatagtaatc
                                                                     8040
acgtctgagc caaggagctg gcccattggt cattcacttc tgctaaaaac aggtttttgt
                                                                     8100
gacttttttt ttttttaaat ttaaatcact gtgtttggta tttttctgac aaaattaaga
                                                                     8160
aaaagaaaaa aaattatttg tgggcaaatg ttaaattttt ttgtttcccc ttttacctca
                                                                     8220
                                                                     8280
attgtatcat agtactgggt ttttttgttt gttttattgt gtggccaatg tctttgggca
tgatgctatc taatcattgt taatgtgaga acatttctga agatgggaaa gacaaattat
                                                                     8340
gtageteaca aactggttta ttatatatat ggataaaaaa ettttteat tgtggtetta
                                                                     8400
acacttttat ataaaaatga aaatggaaaa aaagtcccac tgaactctct cttccttctc
                                                                     8460
cttttctttc cttccctctc cagagatgtt ggtttctaca gcaaccctag atataaaatt
                                                                     8520
gtggctttaa aaatgcatga aaccaccttt aattatccag aatgaataga tttgtctttt
                                                                     8580
                                                                     8640
cctcaccacc ttccctccaa aacatgacat aaacaatatt ttttgcactt gtgatccttg
gcccctttcc ccattctcaa caccatccat ccctctggac aaaggatcat acaggtgtta
                                                                     8700
                                                                     8760
ttagcaagca agagatactg aagcgatcaa acagttttag ggtggaagcc attcccagtt
tgagtcttca tcctgtaagc ccccaggggc agtccctgct ttactgaact tcatcctgtt
                                                                     8820
                                                                     8880
agatggagag catgcctgtt taagggatta ctggtcctac agccaggagc taattgttca
                                                                     8940
agaagtgttg aactttaaaa agacaagacc acttgttgaa atccagcgtg ctctgtggct
                                                                     9000
ttcccctatt tctcttaata cttagggaag aatctgacag gaagaagcgc acaggggtgt
gcacaaagaa aatgacatga atctttattt ttcactgcca gcttcaagga aagaaaattt
                                                                     9060
                                                                     9120
tttctacaat ttgcatgagg gatttttta attgtatgta ctcatggttg taaaccaaaa
                                                                     9180
cgtactgtac cgtacagaga aaaggagcaa aaaaccaagt cttctgttta tcctgaggct
ttccacaatg ttcccctcct gtgagccaag gaggcaaact gcacaagctt gtaaatggtt
                                                                     9240
                                                                     9300
cgtctttaaa atgtacataa gtggaacatt taataaaatg aggggaaatg gatttataaa
cttgtttttt ttctaggtga ccctgtttaa taggctttca cagactgggg aatgctcaag
                                                                     9360
atgtgatggg cctggtggta caggtgtgac atttgttacc acccatttct cccacccac
                                                                     9420
cctgcttttt tgtttgtttg ttttttcatc ccccagcaca ctataatata gtgaactgga
                                                                     9480
                                                                     9540
aaagtccctt ccagaaacag cttggccagc tttgtgaacc tttgacatct gaaaacaacc
                                                                     9600
aaggatccat ctgggcttct cttccccagc tttttgcctg atgccatttt attgacagac
                                                                     9660
aatggacttt gaagtcagcc tttgcctttg agaaagttca agaactatgg ttggtcacgt
ctatctacaa cctaatccta ctctttggta gtctctgcag cagccacagc cttagcagag
                                                                     9720
                                                                     9780
ctggggttcc tgtcttctgc acacgattga ctttcttgat gggtaatttt ttttaagatt
                                                                     9840
ataccaacag tggatcagct gggttttggc caggaagttg tctttgtgga ctctgcctgc
                                                                     9900
atggcttagt agtagaagga aattttttt tggttttgtt ttttataatt cagtttaatc
                                                                     9925
aataaacatg tatttattga ctgtt
<210> 12942
<211> 2386
<212> DNA
<213> Homo sapiens
<400> 12942
tcagcaagca ttttgaagaa tttatttact ttacaaaaga agagtctatc tttgaactag
                                                                       60
ccaagttcaa agttaaaagt agggcaactt cagttctgga taatgcatct gtatttcatt
                                                                      120
caaagccact aaaaaaggaa gacagaataa taaaattgtg aagcataaag ggatcaattc
                                                                      180
                                                                      240
ctaaaaatag ctgtactgtc caaccaaaac tttccaccca gaaaattttc ctgggtgagc
ctcccagaaa agcccagctt agtgtaagcc aaagacctcc caagtctgtc accaattttt
                                                                      300
tccctattac tcacctgatc atgtgggcaa tatcccagtt ggtctctgta gacaatggtc
                                                                      360
cctctatttc aacacctttt tcggtgacag tggcggtttg aaactggaag aaagcagagc
                                                                      420
attcaataat gcccacgcct taagtcctta aatgaaaggt caggtggagg tcttccccaa
                                                                      480
tgtgaaaata ggagtcacac aagtaaggca atctgttctt caaagcatag agacccaggg
                                                                      540
                                                                      600
attgcaagta gccagagccc gccaattagg ttcccagcac atccctcacc cggttgtaag
aacgggcatc tcggtagtac agcactcgca tgcagcgttc tactaagtcg cgggcctcgg
                                                                      660
```

```
720
tctqqcttag cactggctgc ttctccagaa cttctcgcag cagaggctag ggagattggg
                                                                      780
ggaaaaccat ggggggatat tgggctgaat aacaggctag ttgtctcaaa tctatggtat
aaaaagcatt agagtgaaag atgacattct acttcttgcc tcaccagaat gaactctgct
                                                                      840
tagaaaataa gctaagagcc acttcaggaa gaagttctag ggtgtcctct ctttgcatgt
                                                                      900
ctactgactc ccagtcatgt catcttgtca ctggaatcag tgtcaacacc tacagccccc
                                                                      960
                                                                     1020
agactacaaa gaaaaccatc tgcccagtaa tagcgatccc agcccatccc tcatatcaga
atttcaggag aaaagcagac aaccactaat ccatttcctt ttgtcttccc tttcccccac
                                                                     1080
ctctagactt actacttacc tgagccaagt atgcaccata accagtggcc agcgaagggg
                                                                     1140
                                                                     1200
cttcataggc tacaccaagc atgtccacat aaccgaggaa gctaacagga cacaatgggt
caaaactcat ttcaccttag gttcatctta gctgaagaag gggaccatgg ggtctgagtt
                                                                     1260
aaagtgggat tcacttgggg agaagagaca gaagagatac tacacaggta ctaggttggg
                                                                     1320
                                                                     1380
tggtaaagga aataagttat ttgtattcat atgaacctct ctccatcagc atagcctccg
                                                                     1440
atgaccatgg tgttccacaa agggttcatc ttcgagcgcc ggctgtacat ggccctggtc
                                                                     1500
agccatgaat gaatagetet aggactatag etgtgteeat eteceagaag etecteatea
                                                                     1560
atccttaaaa ggaattggtt gtgagaaaag ggagagaatt aagtcggggt ctccacccat
                                                                     1620
ccccaaaaga agttaccaca ccttccccca ttttacacct aatgccaaaa actttattgc
                                                                     1680
aaacacagat cgcccacctc caacaactct cccagtcccc cgctgcaaca agtcccccca
                                                                     1740
tcccatcgaa gggaataaaa aacaggggac tcccctctct acttgggaac cactctcctg
                                                                     1800
ttctctggat gacttacacc atctggccga gaacttgctt caaatactgg aaatcagcgt
agtcgccaga ggcacccagc atggtactgt tgttgactcg cataatgcga gagatgttgc
                                                                     1860
ggaaacgagc caaggagccg taggatccca gcatgtctgc ggcaatcacc actccgccct
                                                                     1920
cgaacttaac gccgaggact gaggtcccgg tcaccatggg gttcctaaag agtgagaacg
                                                                     1980
gtgggagctg agaggggga tggactgcgc cctctttccg cgcactgagc tgcgcttctg
                                                                     2040
attttctata attccttcca attattctgc attctccagg actccgcgcc ctgagctccc
                                                                     2100
ctgccgttcg cgcgccccg gggtccccgc ctcaccttcc cgggctctca aaaccagccg
                                                                     2160
gcagcaccag gccccacggt ccctcccgct acgcaaacga aagcgccgag aacttactgg
                                                                     2220
gtccgcgtga ttggacctct gtaaagtgca gacgccggat ccatgaagga atcgggagtg
                                                                     2280
                                                                     2340
gacggaatgc ggtaaaactg tcctggggcc ggacccccg cccaaagtcc ggaccgcgac
cccaaaaacg cttccatctt agtcacggta gcagaaaaaa tgaaag
                                                                     2386
<210> 12943
<211> 334
<212> DNA
<213> Homo sapiens
<400> 12943
tggctcatac ctgtaattct ggtactttgg gaggctgaga tgggaggatt gcttgagctt
                                                                       60
gggaggtcag ggttgcagtg agccatgatt gagccactgc gctctagcgt gcgagacaga
                                                                      120
acgagactct gtctcaaaac aaaaatccag ggttctcggt agttaaaaaa agaaaaaaga
                                                                      180
attatttcaa ctttattcat atttctttgg ctggggtgta gggggctggg ggcgggggga
                                                                      240
ggttagacat tgtccagtaa atgcccaagg ctttaagctt ccagttttca tatttgcaaa
                                                                      300
                                                                      334
aacttgaaac taattccatt aaagtgacaa aaat
<210> 12944
<211> 1035
<212> DNA
<213> Homo sapiens
<400> 12944
gccagaacct tcctctttt tcttaaaaac tcttcttaat tgaatccaaa gtatctttta
                                                                       60
aatgttctac ttgtgtaatc atgtcatctg tgaatattca gatttatctt ctccttccaa
                                                                      120
                                                                      180
tccqtqtaca tttaatctct ttttctgtgc cttatttcgg gggctgggac ccttcagtcc
                                                                      240
agtgttgaag agaggcagcc agtggaggtc ttgtctcatt caaggactca gagcaaatgt
                                                                      300
gttccacatt taatttcact atgaaatata atatttgatg ttcagttttg tagatgctat
ttatcagatc aaggaaagcc cagtctatac ctaatttgtt aagggttttg ctttttatca
                                                                      360
                                                                      420
taagtgtcga cttttatcaa attcttttt gtatctatta agatgataga tgattgattt
                                                                      480
tcatatgtta aattaaccat gggttaaaca aacttacctt tatcatgata tattattctt
                                                                      540
tttgtatttc acaggaatta gtttggtaat atgttgggtc aatgtttaaa aaagaaaatg
                                                                      600
atgtgtaatt titticitti attgtagtat tictgtttaa tittiggtat gaggattatt
```

```
660
caggtctcat aagagttagg agtatattct cttttaaaaa atatttgcta atttacactc
ccaccaacag tgtaaaagtg ttcttatttc tccacatcct ctccagcatc tgttgtttcc
                                                                     720
                                                                     780
tgacttttta ataatcgcca ttctaactgg catgagatga tatctcattg tggttttgat
                                                                     840
ttgcatttct ctaatgacca gtgatgatga actttttttc atatgtttgt tggctgcata
                                                                     900
aatgtcttct tttgagaagt gtctgttcat atccttcacc cactttttga tggggttgtt
                                                                     960
tgcttttacc ttgtaaattt gtttaagttc cttgtagatt ctggacatta gccctttgtc
                                                                    1020
agatggatag attgcaaaaa ttttctccca tcccgtaggt tgcctgttca ctctgatgac
                                                                    1035
ctatcaatga tagac
<210> 12945
<211> 9357
<212> DNA
<213> Homo sapiens
<400> 12945
                                                                      60
agcattccct tcgtgccgct accaagatgg cggcgcccat cttgcggtcc ttttcctggg
gccggtggtc tggtacccta aatctctcag tattgttgcc cttggggctg cgtaaggccc
                                                                     120
                                                                     180
actegggege teaggggtta etggeagege agaaggeteg aggtetgtte aaggaettet
                                                                     240
tcccggagac ggggacgaaa atagagctcc cagagctctt cgaccgtggc acggcgagtt
                                                                     300
ttccccaaac catttactgt ggcttcgacc ccacggcaga ctcgcttcat gtgggtcatc
tacttgcgct gctgggcctg tttcatttgc agcgagcggg ccacaacgtg atcgcgctgg
                                                                     360
                                                                     420
tgggaggcgc cacggcgcgc ctgggagacc cgagcggccg taccaaggaa cgcgaggcgc
                                                                     480
tggagacaga gcgcgtgcga gccaacgcgc gagctctgcg cctagggctt gaggccctgg
                                                                     540
cggctaatca ccagcagctt ttcactgatg ggcgctcctg gggcagcttc actgtgctgg
                                                                     600
acaactcggc ctggtaccag aagcagcacc tggtggactt cctggcggca gtggggggtc
acttccgcat ggggacgctg ctgagccggc agagcgtgca gctgcggctc aagagccccg
                                                                     660
                                                                     720
agggcatgag cttggccgag ttcttttacc aggtgctcca ggcctatgac ttctattacc
tcttccagcg ttatggatgc agggtccagc tgggcggatc tgatcaacta ggcaacatca
                                                                     780
                                                                     840
tgtccggata tgagttcatc aacaagtaag tgcctttaaa ccttggggaa atcctgggac
                                                                     900
caaataattt acacactagt agcctgtgat tcactcttag gattgtagtt gctgcccttc
gttccagctc ttgttggttt tatccccatt aaggctctat aatggcgtta ataacactgg
                                                                     960
ctaataagaa ttaaagggct gaattaaggg tattaagagt aaacggtgta ttctaaaaat
                                                                    1020
tagctgggcg tggtgatgca cgcctgtaat cccagctatt cgggaggctg aggcaggaga
                                                                    1080
                                                                    1140
atctcttgaa cccgggaggc gaaggtttca gtgagccgag atcgcgccac tgcactccag
1200
cactagtgaa gatttggtcg gtctgttttg cttcgcctaa gtcgtcctct ctaattagag
                                                                    1260
aaactgcttt tgtgtgttta taccagaacg tgactgggcc tccttgagta gctagcctct
                                                                    1320
gctttagctc tgcaccctcc atgaaactag tgttagtcct tggttggtat ctcaaaaagt
                                                                    1380
tttttcaact ccaaataatt gacaagtaat gcgggtctaa tagcattttc ttgagagagg
                                                                    1440
                                                                    1500
tgaaggatag ggctagctca tgtgcaacag agcaaagcac atgtttaaaa ggcgtttaga
agatttcctt tagtgtctct tcctgacacc ccttcaccca gttttctcct tcccactcag
                                                                    1560
cctttcaaaa tctctagtcc attgttatgt agcacttccc cttggcctgc ctagaacctg
                                                                    1620
cctggaacca ctcatgaggt tcagaatgaa tagagtaagt actgtaacaa tacataagag
                                                                    1680
gaacaagaat tcagatttag gaggtcaagg aagttttcct ggagcaagta accagaaaga
                                                                    1740
aatctggaag gtgaacagta gaacctacca ccacttgtgc ttgaggcaca taatgaaatt
                                                                    1800
gttctttatg cgtaggttga ctggagaaga tgtatttgga atcaccgttc ctctaattac
                                                                    1860
aagtacaact ggagcaaagc tgggaaagtc tgctggcaac gctgtttggc taaacagaga
                                                                    1920
taagacatct ccatttgaat tgtatcaatt ctttgtcagg caaccggacg attcagtgga
                                                                    1980
aaggtgagtt ctgaataatg ggctgagaaa aactgacacc ataaactcat gatgtaattt
                                                                    2040
                                                                    2100
tagccattga atctatgtac attttatagt ttttttgttt ttaacgtagt ttctgtctgt
                                                                     2160
acataaacca ttacatcata gaagactaat ttttactgtg ttctaaagtt aaacactttg
ttggttaaag cagaaaaaca gtgggtggct agaaaatgta gagccaactt tttgatctgt
                                                                    2220
                                                                    2280
atctagcaag ttcttaggat tttatcacct gcatattcta gttttttcac tcctttcaac
ttaaccttga ctacccttat ttttcctttg tctctcttct ctcacaaata tgactttaaa
                                                                    2340
gatcctctta agaaatgatt tctccttaaa tcaaattgcc ttaaactctt ggaagaatat
                                                                     2400
gaattaatga gaaacaaata tacctgcaac aaaaagtgaa aaaaatattt tgatgctctg
                                                                     2460
                                                                     2520
taacatcaaa gtaatctagg aataattctt taagacttaa aaggtatatg actttcctgc
aaaatattaa aagatgctat tgagcaaaat aaagacctac ataaatggag agttagacca
                                                                     2580
                                                                     2640
tattcatagt acaaaaataa tatcagttct tttttgtatt ttttgaaaca gaatctcact
cccattgccc aggctagagt gtagtgacgc agtcttggct cactgtagcc tgaaattccc
                                                                     2700
```

2760 aggctcaggt gcacaccacc atgcccagct aattttgtat tttttttta gtaatggtgg 2820 agtttcacct tgttccccag gctggtctca gactcctgga ctcaagcgat aaacctgcct cagactccca aagtgctggg attacagcat gagcccccgc acccggccaa gataccagtt 2880 ctggatttga tctacattta gtacagtgcc aaccatatct aaaccggctt tttgtggaac 2940 ttgacaagct cattgtaaca ctgacataga aataaaaagg gctaagattg gccaagatgt 3000 ttttgaagaa cagagtggaa gattatcatg ccttattaca aaattttggt aattgtgttt 3060 3120 ttttctcttt agatttagtc ctagaatgtt tgacgatata gtcctggggt tttgatgtat 3180 tgagaattga taatcttttt ttttttttt ttttttttt gaggcagtgt ctcactttgt tgcccaggct agagtgtagt ggcatgatct tggctcattg caacctccgc ctcctgggtt 3240 3300 caagtgattc tcctgagtag ctaggactac aggcatgcgc caccatgccc agctaatttt tgtatttttg tagaggcagg gtttcgccat gttggccagg ctggtctcga actcctgacc 3360 3420 tcaagtgatc caccttcctc agcctcccaa agtgctggga ttacaggctt gagctaccgc 3480 acceggeeta gagaatttag ataatetttt caaaaattge attttetate tggttetggt 3540 gtatagaaat acaattactt tatatatatt acctttaaat ctagcaactc tgccaaactc 3600 actatttgat tacagacgtg agccactgcg cccggcccaa tactgtattt cttgaccatg gtgatggtta catagatgtt ttatgattca ttaagctata tctttgtgaa taatgtactt 3660 3720 ttttctgtgt gttatatata tttcaccaaa gaaaaagaga atacatatag gatgatatta 3780 tagtcatata tcacttaaca atagggatac attctgggaa gtgtgttgtt aggtgatttc 3840 3900 cttaggctat acagtgtacc ctgttgctcc cagggtagaa gcacatacag cacattactg tactaaatac tgaaggcagt gataacgcga gggtaagtat ttgtatacgt aaacatagaa 3960 aaagtacagt aaactatggt attataatgt tatgaaccac tgttggactg taccagtccg 4020 tggcctgtta ggaacagggc tgcgcaacag gagctgagtg gcaggcgagc gagcattaca 4080 cctgggctcc atctcctgtc agatccacgg ttgcattaga ttctcatagg agcacaaacc 4140 ctattgtgaa ctgcgcatgc aagagatcta ggttgcgcat tccttttgag gatccaacaa 4200 atgcctgatg atctgaagtg gaacagtttc attctgaaac cacctcccct ccccgccgcc 4260 tcgtggtgcc aaaaaggttg gggaccgcgg atatatgtag tccatcattg acagaaacat 4320 cattatgcag agcatgatga tttatatcag tttttaaaaat tacacagtac tttttttta 4380 tggccacatg cacatgaaag tataaaaaca tgcttgggaa agatggcagc acataaactt 4440 4500 agatttatga ttatctcggg gcaaggaagg gaatgtgatt ggactgcggc cttcatctat gcctattttg ttccttttaa aaagaaaata cgaggctggg cttggtggct cctgcccata 4560 atcccaacac tttgggaggc tgagacaaga ggatcacttg agcccaggag tttgagacca 4620 gcctgggcaa cacaggagac cccgtcttta caaaaaaaat ataaaaatta gccaggcgtg 4680 4740 gtggcacaag cctgtggtcc cggctgcttg ggaggcagag gtggtagaat tgcttgagcc caggaggttg aggttacagt gagccatgat catgccactg cactccagcc tgggcaacag 4800 caagaccccc atctcaaaaa aaaaaaaaag aaattgaaaa caaagatgcc aaaatagtaa 4860 caccttaaat ctgggtgatg tgtgcatggg acctactatg ttcagtacat ttctgtatgt 4920 ttgtttcata tttaaaagta agcaggataa ccttaaaggg tagaagagct ggagataaaa 4980 attaggtatg ttatataagt gtaactcttt attttttgtc tcaaaggtac ctgaagctgt 5040 tcactttcct gccccttcca gagattgatc atatcatgca gctgcatgtc aaagagccag 5100 aaaggcgggg tcctcagaaa cgactggcag cagaagtaac aaagcttgtt catggacgag 5160 aaggattgga ttctgctaaa aggtagtagt ttagtatgat taacacttga tagttagtta 5220 ttcagtggat agacatgaga aaagtaggag tatgttttag gattatcttg tcatttatca 5280 5340 caaggactgt cagtatttga cttagcaatt taaaatagcc cctgtttatt ggaaagaagg attatcttga attaagttta tgaattatac cagatagatg tttaaaaaac ttttagtcta 5400 tgccgggcgc ggtggctcac gcctgtaatc ccagcacttt gggaggccaa ggtgggctga 5460 tcacgaggtc aggagttcga gaccagcctg accaacatgg tgaaaccccc atctctacta 5520 aaaatacaaa acttagctgg gcgtggtggc acacgtctgt aatcccagct actcaggagg 5580 ctgaggcagg agaatcgcct gaacccggga ggcagaggtt gctgtgagcc gagatcatgc 5640 cattgcaatc cagccggggc aacagagcga gactccatct caaaaaaaaa cttttagtct 5700 agaacttgga cactctataa ttggttaatg ggtattagaa catgtatttg aataaacatt 5760 tatatgatgt agctcttaaa atgtgttttt caggtgtaca caagcccttt atcacagtag 5820 catagatgca ctggaggtca tgtctgatca ggagttaaaa gagttgttta aagaagctcc 5880 5940 tgccattcca gatggtcccc gagggtaaga ttatttaact tttagattta cagttaattc 6000 accattaaat gttacagttc acaaggccag gagaagtggc tcatgcctgt aatcacagca 6060 cattgggagg ccgaggcggg cagatcacga ggtcaggaga tcgagaccat cctggctaac 6120 6180 acggtgaaac cctgtctcta ctaaaaatac aaattagccg ggcatggtgg caggcgcctg 6240 tagtcccagc tacttgggag gctgaggcag gagaatggca tcaacccggg aggcagagct 6300 tgcagtgagc ggagatccca ccactgcact ccagcctggg tgacagagca agactctgtc tcaaaaaata aataaaatgt tacagttcac agcatgtgtt tccagagagg atgttttcct 6360

```
agcctgagag tacttattgt tgaaaatact ttatattttc tataatagta cagtactcct
                                                                     6480
                                                                     6540
atactgtctc ttattatatc taacccagtc agtctttcct ccaacactgg aaaagtgcat
                                                                     6600
ttgagggaca tgttcagtaa atacactggc atcagtgtac ggcttaggga tatggtcaca
                                                                     6660
gttttagagg gatgcagaaa cagaggccct atgtaacaga ttaacacagc ccctctcata
                                                                     6720
gtctgtatcc tttttatatt cggggatggg aaaggttacc taacctatct atagtattaa
                                                                     6780
ctgaatttct gaaaatgaaa tgagcatata atggccaaaa ccgcaagtac ttttgcacta
acctactaac gtcataagac tattattgta aactatataa taatcccctt gagaattgca
                                                                     6840
ttttctattc aggaattgag tagaatattt taattaatca gttatgaggt attaaggagt
                                                                     6900
aaataaggtt tttcacaaaa aataattcag catataattg atgcttatcc atttttaaat
                                                                     6960
                                                                     7020
qaacaqtqaq qtggaaggaa aagtgttggg tagccagaag acccccaggt gcctcttttg
caggagttca cacagaagtc aaatggttat cggccatatc atggccatga ttatgaatga
                                                                     7080
                                                                     7140
catttgttat agttgttctc tttcaactgt cttggattgt ttgcctgtgt cctaaagagt
cctagactat tctgcctgga aaaagcaccc attgtctccc tttgcatcac ctgccactcc
                                                                     7200
accttagtga ttccctcatc tgctggttta acacacagtg aatttgaggc tggtgtcata
                                                                     7260
tacttccctg tagtatgtca gcgagacaaa taattttcct cactatggaa gcagatttcg
                                                                     7320
ttttcttctg aactttacta tagtgtgttc gctaatactg gaagctttac cactactaaa
                                                                     7380
aatgacacca catctgattt agccagggct ctaagtaata ctgatttttt tttttaatat
                                                                     7440
                                                                     7500
tatataagct aaataggttt ggtgcattta aattaaacat agaacatgat ctggaaacta
gcagacagcg taaaataata cttcctaaaa gaaaggaatc tggccttaag tagaaaatat
                                                                     7560
                                                                     7620
tttactgatg agttttataa aaccatgtcc atggccaggt atggtggctc acatttgtaa
tcccagcact tcgggaggct gagggcggga ggattgcttg gggccaggag ttcaagatct
                                                                     7680
gtgtgggcaa ggacgtagtg agactccgtc tctacccaaa aataaaggta taaaaatatc
                                                                     7740
                                                                     7800
tttaaaacca tgtccagtag tggtttctta attttatttg gtaacattca gatgagagaa
                                                                     7860
aaccaccatt tttctttctt aaggacttcc aagatctagc cacgctgtag ccctgtcttc
                                                                     7920
tcagatctca cctctttcta gctgctccca tgtttcctgc cctgattgtc aaggtagctt
cactcccagt ttaagtatct ctttttcag tgaaatgttc agccctcacc tacccagtgt
                                                                     7980
                                                                     8040
gctcctagaa caacttctcc taggtctttc tttttttttc ttgagacgga gtctttaaaa
                                                                     8100
gagcagattg caaggcgtaa attccggcca gacacagtgg ttcacacctg taatcccagc
actttgggag gccaaggcag gtggatcact tgaggttggg agtttgagac cagcctggct
                                                                     8160
                                                                     8220
aacatggcga aacccatctc tactaaaaat acaaaattag ccaggtgtgg tggcatgcac
ctgtaatcgc agctactctg gaggctgagg caggagaatc acttagaaca caggaggcgg
                                                                     8280
aggttgcagt gagctgagat catgccagcc tgggctacag agcaagaatg tgtttcaaaa
                                                                     8340
                                                                     8400
acaaacaaca aaaaacaaag agcagtaaag agaggcagaa tctattaata atagagcaaa
catgaaggta acagtccagt gccaaatgaa atcttctcaa ttggagagcc tctgaaatct
                                                                     8460
aagtgaaaca gtcttttttg ggggacagat caacagtgat tggatctctc tacttactaa
                                                                     8520
acgtttctat tttttaggta tcgaatgata acagaaggcg gagtcagcat aaatcaccaa
                                                                     8580
caagtaacaa atcctgagag tgttttaatt gttggacaac atattctcaa gaatggactt
                                                                     8640
                                                                     8700
tccttactta aaataggaaa aagaaatttc tacattataa aatggcttca gttgtgatga
                                                                     8760
aaagtccttc tggttgtcca aataaactta cccatcattc attctcaaga cctctgaagg
                                                                     8820
gttggctcca gaacttagac ctttgcttat gcaaatcaga aaaacagaat ggactaggac
                                                                     8880
tcagtgtgag taacttcatt atttttatgg gccggttaat aaatatttgt ttaataatgg
gatgttttat tttctgatgt acaaagcttg attaccatag aaaaccatga ttttcagggt
                                                                     8940
taatctcttt ttaaaattat acttcagaag agaaagaaat gctgctttcc tatcttaccc
                                                                     9000
ttcctgctct cctttttgta gtgatgagga acaatgaaaa agaggtagtg taaggaattg
                                                                     9060
tgaggctggg catggtggct cacacctgta atcccagcac ttcgggaggc caaggtgggc
                                                                     9120
aaatcgcttg aggccaggag tttgagacca gcctggccaa cagggcgaaa ccccgtctct
                                                                     9180
                                                                     9240
actgaaaata taaaaattag ccagatgtgg ttgcaggcac ctgtaacccc agctactcaa
                                                                     9300
gaggctgagc tgcgagaatc acttgaaccc aggagatgga ggttgcagtg agctgagatc
 acgccactgc actccagcct gggagacagc atgagtagtg agtgaaactc tgtctca
                                                                     9357
 <210> 12946
 <211> 422
 <212> DNA
 <213> Homo sapiens
 <400> 12946
 ttgatgcatg tactttattg cactgagttt ttcttgctat accttggaca agactgccac
                                                                        60
                                                                       120
 ctcctggaag agccgatgaa tactggggac gaggtgcaat tagggaatcg gtactatgaa
```

gatagtgctt tagtggcatc tcttccttag aaaagttagt ttagtccaag aataaagtat

180

attgcttgcg tctcagcagc aactccctat ctctccgcga acttaaacca attcctaacc

```
tttctcaacc tctgtgaaca gctttttgca tggaaccaag acttcaaaga acttgcgcat
                                                                     240
                                                                     300
cacaatcttt ttacgtgaaa atgtaaatac aagttagcat ttgtgaagcg ttatgtgcca
                                                                     360
aatgctttaa tttttaaggc tcacaacagc cttatgaggt aggaactatc ataagcagat
                                                                     420
ccacactgct gatggaaaaa ttaagtttaa gggaacgtaa ggcgacggct ctgaggcgga
                                                                     422
<210> 12947
<211> 9357
<212> DNA
<213> Homo sapiens
<400> 12947
                                                                      60
agcattccct tcgtgccgct accaagatgg cggcgcccat cttgcggtcc ttttcctggg
gccggtggtc tggtacccta aatctctcag tattgttgcc cttggggctg cgtaaggccc
                                                                     120
actegggege teaggggtta etggeagege agaaggeteg aggtetgtte aaggaettet
                                                                     180
                                                                     240
tcccggagac ggggacgaaa atagagctcc cagagctctt cgaccgtggc acggcgagtt
                                                                     300
ttccccaaac catttactgt ggcttcgacc ccacggcaga ctcgcttcat gtgggtcatc
                                                                     360
tacttgcgct gctgggcctg tttcatttgc agcgagcggg ccacaacgtg atcgcgctgg
                                                                     420
tgggaggcgc cacggcgcgc ctgggagacc cgagcggccg taccaaggaa cgcgaggcgc
tggagacaga gcgcgtgcga gccaacgcgc gagctctgcg cctagggctt gaggccctgg
                                                                     480
                                                                     540
cggctaatca ccagcagctt ttcactgatg ggcgctcctg gggcagcttc actgtgctgg
                                                                     600
acaactcggc ctggtaccag aagcagcacc tggtggactt cctggcggca gtggggggtc
                                                                     660
acttccgcat ggggacgctg ctgagccggc agagcgtgca gctgcggctc aagagccccg
                                                                     720
agggcatgag cttggccgag ttcttttacc aggtgctcca ggcctatgac ttctattacc
                                                                     780
tcttccagcg ttatggatgc agggtccagc tgggcggatc tgatcaacta ggcaacatca
tgtccggata tgagttcatc aacaagtaag tgcctttaaa ccttggggaa atcctgggac
                                                                     840
                                                                     900
caaataattt acacactagt agcctgtgat tcactcttag gattgtagtt gctgcccttc
                                                                     960
gttccagctc ttgttggttt tatccccatt aaggctctat aatggcgtta ataacactgg
ctaataagaa ttaaagggct gaattaaggg tattaagagt aaacggtgta ttctaaaaat
                                                                    1020
tagctgggcg tggtgatgca cgcctgtaat cccagctatt cgggaggctg aggcaggaga
                                                                    1080
                                                                    1140
atctcttgaa cccgggaggc gaaggtttca gtgagccgag atcgcgccac tgcactccag
1200
cactagtgaa gatttggtcg gtctgttttg cttcgcctaa gtcgtcctct ctaattagag
                                                                    1260
aaactgcttt tgtgtgttta taccagaacg tgactgggcc tccttgagta gctagcctct
                                                                    1320
gctttagctc tgcaccctcc atgaaactag tgttagtcct tggttggtat ctcaaaaagt
                                                                    1380
tttttcaact ccaaataatt gacaagtaat gcgggtctaa tagcattttc ttgagagagg
                                                                    1440
                                                                    1500
tgaaggatag ggctagctca tgtgcaacag agcaaagcac atgtttaaaa ggcgtttaga
agatttcctt tagtgtctct tcctgacacc ccttcaccca gttttctcct tcccactcag
                                                                    1560
                                                                    1620
cctttcaaaa tctctagtcc attgttatgt agcacttccc cttggcctgc ctagaacctg
cctggaacca ctcatgaggt tcagaatgaa tagagtaagt actgtaacaa tacataagag
                                                                    1680
                                                                    1740
gaacaagaat tcagatttag gaggtcaagg aagttttcct ggagcaagta accagaaaga
aatctggaag gtgaacagta gaacctacca ccacttgtgc ttgaggcaca taatgaaatt
                                                                    1800
gttctttatg cgtaggttga ctggagaaga tgtatttgga atcaccgttc ctctaattac
                                                                    1860
aagtacaact ggagcaaagc tgggaaagtc tgctggcaac gctgtttggc taaacagaga
                                                                    1920
taagacatct ccatttgaat tgtatcaatt ctttgtcagg caaccggacg attcagtgga
                                                                    1980
aaggtgagtt ctgaataatg ggctgagaaa aactgacacc ataaactcat gatgtaattt
                                                                    2040
tagccattga atctatgtac attttatagt ttttttgttt ttaacgtagt ttctgtctgt
                                                                     2100
acataaacca ttacatcata gaagactaat ttttactgtg ttctaaagtt aaacactttg
                                                                     2160
 ttggttaaag cagaaaaaca gtgggtggct agaaaatgta gagccaactt tttgatctgt
                                                                     2220
atctagcaag ttcttaggat tttatcacct gcatattcta gttttttcac tcctttcaac
                                                                     2280
 ttaaccttga ctacccttat ttttcctttg tctctcttct ctcacaaata tgactttaaa
                                                                     2340
gatcctctta agaaatgatt tctccttaaa tcaaattgcc ttaaactctt ggaagaatat
                                                                     2400
gaattaatga gaaacaaata tacctgcaac aaaaagtgaa aaaaatattt tgatgctctg
                                                                     2460
 taacatcaaa gtaatctagg aataattctt taagacttaa aaggtatatg actttcctgc
                                                                     2520
                                                                     2580
aaaatattaa aagatgctat tgagcaaaat aaagacctac ataaatggag agttagacca
                                                                     2640
 tattcatagt acaaaaataa tatcagttct tttttgtatt ttttgaaaca gaatctcact
 cccattgccc aggctagagt gtagtgacgc agtcttggct cactgtagcc tgaaattccc
                                                                     2700
 aggctcaggt gcacaccacc atgcccagct aattttgtat ttttttttta gtaatggtgg
                                                                     2760
 agtttcacct tgttccccag gctggtctca gactcctgga ctcaagcgat aaacctgcct
                                                                     2820
 cagactccca aagtgctggg attacagcat gagcccccgc acccggccaa gataccagtt
                                                                     2880
```

```
2940
ctggatttga tctacattta gtacagtgcc aaccatatct aaaccggctt tttgtggaac
                                                                   3000
ttgacaagct cattgtaaca ctgacataga aataaaaagg gctaagattg gccaagatgt
ttttgaagaa cagagtggaa gattatcatg ccttattaca aaattttggt aattgtgttt
                                                                   3060
ttttctcttt agatttagtc ctagaatgtt tgacgatata gtcctggggt tttgatgtat
                                                                   3120
tgagaattga taatcttttt ttttttttt ttttttttt gaggcagtgt ctcactttgt
                                                                   3180
tgcccaggct agagtgtagt ggcatgatct tggctcattg caacctccgc ctcctgggtt
                                                                   3240
                                                                   3300
caagtgattc tcctgagtag ctaggactac aggcatgcgc caccatgccc agctaatttt
tgtatttttg tagaggcagg gtttcgccat gttggccagg ctggtctcga actcctgacc
                                                                   3360
tcaagtgatc caccttcctc agcctcccaa agtgctggga ttacaggctt gagctaccgc
                                                                   3420
acccggccta gagaatttag ataatctttt caaaaattgc attttctatc tggttctggt
                                                                   3480
                                                                   3540
gtatagaaat acaattactt tatatatatt acctttaaat ctagcaactc tgccaaactc
                                                                   3600
actatttgat tacagacgtg agccactgcg cccggcccaa tactgtattt cttgaccatg
                                                                   3660
gtgatggtta catagatgtt ttatgattca ttaagctata tctttgtgaa taatgtactt
                                                                   3720
ttttctgtgt gttatatata tttcaccaaa gaaaaagaga atacatatag gatgatatta
                                                                   3780
tagtcatata tcacttaaca atagggatac attctgggaa gtgtgttgtt aggtgatttc
                                                                   3840
3900
cttaggctat acagtgtacc ctgttgctcc cagggtagaa gcacatacag cacattactg
tactaaatac tgaaggcagt gataacgcga gggtaagtat ttgtatacgt aaacatagaa
                                                                   3960
                                                                   4020
aaagtacagt aaactatggt attataatgt tatgaaccac tgttggactg taccagtccg
                                                                   4080
tggcctgtta ggaacagggc tgcgcaacag gagctgagtg gcaggcgagc gagcattaca
cctgggctcc atctcctgtc agatccacgg ttgcattaga ttctcatagg agcacaaacc
                                                                   4140
ctattgtgaa ctgcgcatgc aagagatcta ggttgcgcat tccttttgag gatccaacaa
                                                                   4200
atgcctgatg atctgaagtg gaacagtttc attctgaaac cacctcccct ccccgccgcc
                                                                   4260
                                                                   4320
tcgtggtgcc aaaaaggttg gggaccgcgg atatatgtag tccatcattg acagaaacat
                                                                   4380
cattatgcag agcatgatga tttatatcag tttttaaaaat tacacagtac tttttttta
                                                                   4440
tggccacatg cacatgaaag tataaaaaca tgcttgggaa agatggcagc acataaactt
agatttatga ttatctcggg gcaaggaagg gaatgtgatt ggactgcggc cttcatctat
                                                                   4500
gcctattttg ttccttttaa aaagaaaata cgaggctggg cttggtggct cctgcccata
                                                                   4560
atcccaacac tttgggaggc tgagacaaga ggatcacttg agcccaggag tttgagacca
                                                                   4620
gcctgggcaa cacaggagac cccgtcttta caaaaaaaat ataaaaatta gccaggcgtg
                                                                   4680
                                                                   4740
gtggcacaag cctgtggtcc cggctgcttg ggaggcagag gtggtagaat tgcttgagcc
caggaggttg aggttacagt gagccatgat catgccactg cactccagcc tgggcaacag
                                                                   4800
caagaccccc atctcaaaaa aaaaaaaaag aaattgaaaa caaagatgcc aaaatagtaa
                                                                   4860
caccttaaat ctgggtgatg tgtgcatggg acctactatg ttcagtacat ttctgtatgt
                                                                   4920
ttgtttcata tttaaaagta agcaggataa ccttaaaggg tagaagagct ggagataaaa
                                                                   4980
attaggtatg ttatataagt gtaactcttt attttttgtc tcaaaggtac ctgaagctgt
                                                                   5040
tcactttcct gccccttcca gagattgatc atatcatgca gctgcatgtc aaagagccag
                                                                   5100
aaaggcgggg tcctcagaaa cgactggcag cagaagtaac aaagcttgtt catggacgag
                                                                   5160
aaggattgga ttctgctaaa aggtagtagt ttagtatgat taacacttga tagttagtta
                                                                   5220
ttcagtggat agacatgaga aaagtaggag tatgttttag gattatcttg tcatttatca
                                                                   5280
caaggactgt cagtatttga cttagcaatt taaaatagcc cctgtttatt ggaaagaagg
                                                                   5340
attatcttga attaagttta tgaattatac cagatagatg tttaaaaaac ttttagtcta
                                                                   5400
tgccgggcgc ggtggctcac gcctgtaatc ccagcacttt gggaggccaa ggtgggctga
                                                                   5460
tcacgaggtc aggagttcga gaccagcctg accaacatgg tgaaaccccc atctctacta
                                                                   5520
aaaatacaaa acttagctgg gcgtggtggc acacgtctgt aatcccagct actcaggagg
                                                                   5580
ctgaggcagg agaatcgcct gaacccggga ggcagaggtt gctgtgagcc gagatcatgc
                                                                   5640
cattgcaatc cagccggggc aacagagcga gactccatct caaaaaaaa cttttagtct
                                                                   5700
                                                                   5760
agaacttgga cactctataa ttggttaatg ggtattagaa catgtatttg aataaacatt
tatatgatgt agctcttaaa atgtgttttt caggtgtaca caagcccttt atcacagtag
                                                                   5820
catagatgca ctggaggtca tgtctgatca ggagttaaaa gagttgttta aagaagctcc
                                                                   5880
5940
tgccattcca gatggtcccc gagggtaaga ttatttaact tttagattta cagttaattc
                                                                   6000
                                                                   6060
accattaaat gttacagttc acaaggccag gagaagtggc tcatgcctgt aatcacagca
cattgggagg ccgaggcggg cagatcacga ggtcaggaga tcgagaccat cctggctaac
                                                                   6120
acggtgaaac cctgtctcta ctaaaaatac aaattagccg ggcatggtgg caggcgcctg
                                                                   6180
                                                                   6240
tagtcccagc tacttgggag gctgaggcag gagaatggca tcaacccggg aggcagagct
tgcagtgagc ggagatccca ccactgcact ccagcctggg tgacagagca agactctgtc
                                                                   6300
                                                                   6360
tcaaaaaata aataaaatgt tacagttcac agcatgtgtt tccagagagg atgttttcct
gatagtgctt tagtggcatc tcttccttag aaaagttagt ttagtccaag aataaagtat
                                                                   6420
agcctgagag tacttattgt tgaaaatact ttatattttc tataatagta cagtactcct
                                                                   6480
atactgtctc ttattatatc taacccagtc agtctttcct ccaacactgg aaaagtgcat
                                                                   6540
```

```
6600
ttgagggaca tgttcagtaa atacactggc atcagtgtac ggcttaggga tatggtcaca
gttttagagg gatgcagaaa cagaggccct atgtaacaga ttaacacagc ccctctcata
                                                                     6660
gtctgtatcc tttttatatt cggggatggg aaaggttacc taacctatct atagtattaa
                                                                     6720
ctgaatttct gaaaatgaaa tgagcatata atggccaaaa ccgcaagtac ttttgcacta
                                                                     6780
                                                                     6840
acctactaac gtcataagac tattattgta aactatataa taatcccctt gagaattgca
ttttctattc aggaattgag tagaatattt taattaatca gttatgaggt attaaggagt
                                                                     6900
aaataaggtt tttcacaaaa aataattcag catataattg atgcttatcc atttttaaat
                                                                     6960
                                                                     7020
gaacagtgag gtggaaggaa aagtgttggg tagccagaag accccaggt gcctcttttg
caggagttca cacagaagtc aaatggttat cggccatatc atggccatga ttatgaatga
                                                                     7080
catttgttat agttgttctc tttcaactgt cttggattgt ttgcctgtgt cctaaagagt
                                                                     7140
                                                                     7200
cctagactat tctgcctgga aaaagcaccc attgtctccc tttgcatcac ctgccactcc
accttagtga ttccctcatc tgctggttta acacacagtg aatttgaggc tggtgtcata
tacttccctg tagtatgtca gcgagacaaa taattttcct cactatggaa gcagatttcg
                                                                     7320
                                                                     7380
ttttcttctg aactttacta tagtgtgttc gctaatactg gaagctttac cactactaaa
                                                                     7440
aatgacacca catctgattt agccagggct ctaagtaata ctgatttttt tttttaatat
                                                                     7500
tatataagct aaataggttt ggtgcattta aattaaacat agaacatgat ctggaaacta
                                                                     7560
gcagacagcg taaaataata cttcctaaaa gaaaggaatc tggccttaag tagaaaatat
                                                                     7620
tttactgatg agttttataa aaccatgtcc atggccaggt atggtggctc acatttgtaa
tcccagcact tcgggaggct gagggcggga ggattgcttg gggccaggag ttcaagatct
                                                                     7680
                                                                     7740
gtgtgggcaa ggacgtagtg agactccgtc tctacccaaa aataaaggta taaaaatatc
tttaaaacca tgtccagtag tggtttctta attttatttg gtaacattca gatgagagaa
                                                                     7800
aaccaccatt tttctttctt aaggacttcc aagatctagc cacgctgtag ccctgtcttc
                                                                     7860
tcagatctca cctctttcta gctgctccca tgtttcctgc cctgattgtc aaggtagctt
                                                                     7920
cactcccagt ttaagtatct cttttttcag tgaaatgttc agccctcacc tacccagtgt
                                                                     7980
gctcctagaa caacttctcc taggtctttc tttttttttc ttgagacgga gtctttaaaa
                                                                     8040
gagcagattg caaggcgtaa attccggcca gacacagtgg ttcacacctg taatcccagc
                                                                     8100
actttgggag gccaaggcag gtggatcact tgaggttggg agtttgagac cagcctggct
                                                                     8160
aacatggcga aacccatctc tactaaaaat acaaaattag ccaggtgtgg tggcatgcac
                                                                     8220
                                                                     8280
ctgtaatcgc agctactctg gaggctgagg caggagaatc acttagaaca caggaggcgg
aggttgcagt gagctgagat catgccagcc tgggctacag agcaagaatg tgtttcaaaa
                                                                     8340
acaaacaaca aaaaacaaag agcagtaaag agaggcagaa tctattaata atagagcaaa
                                                                     8400
catgaaggta acagtccagt gccaaatgaa atcttctcaa ttggagagcc tctgaaatct
                                                                     8460
aagtgaaaca gtcttttttg ggggacagat caacagtgat tggatctctc tacttactaa
                                                                     8520
acgtttctat tttttaggta tcgaatgata acagaaggcg gagtcagcat aaatcaccaa
                                                                     8580
caagtaacaa atcctgagag tgttttaatt gttggacaac atattctcaa gaatggactt
                                                                     8640
tccttactta aaataggaaa aagaaatttc tacattataa aatggcttca gttgtgatga
                                                                     8700
aaagtccttc tggttgtcca aataaactta cccatcattc attctcaaga cctctgaagg
                                                                     8760
gttggctcca gaacttagac ctttgcttat gcaaatcaga aaaacagaat ggactaggac
                                                                     8820
                                                                     8880
tcagtgtgag taacttcatt atttttatgg gccggttaat aaatatttgt ttaataatgg
gatgttttat tttctgatgt acaaagcttg attaccatag aaaaccatga ttttcagggt
                                                                     8940
taatctcttt ttaaaattat acttcagaag agaaagaaat gctgctttcc tatcttaccc
                                                                     9000
ttcctgctct cctttttgta gtgatgagga acaatgaaaa agaggtagtg taaggaattg
                                                                     9060
tgaggctggg catggtggct cacacctgta atcccagcac ttcgggaggc caaggtgggc
                                                                     9120
aaatcgcttg aggccaggag tttgagacca gcctggccaa cagggcgaaa ccccgtctct
                                                                     9180
actgaaaata taaaaattag ccagatgtgg ttgcaggcac ctgtaacccc agctactcaa
                                                                     9240
gaggctgagc tgcgagaatc acttgaaccc aggagatgga ggttgcagtg agctgagatc
                                                                     9300
acgccactgc actccagcct gggagacagc atgagtagtg agtgaaactc tgtctca
                                                                     9357
<210> 12948
<211> 422
<212> DNA
<213> Homo sapiens
<400> 12948
ttgatgcatg tactttattg cactgagttt ttcttgctat accttggaca agactgccac
                                                                       60
ctcctggaag agccgatgaa tactggggac gaggtgcaat tagggaatcg gtactatgaa
                                                                       120
                                                                       180
attgcttgcg tctcagcagc aactccctat ctctccgcga acttaaacca attcctaacc
                                                                       240
tttctcaacc tctgtgaaca gctttttgca tggaaccaag acttcaaaga acttgcgcat
cacaatcttt ttacgtgaaa atgtaaatac aagttagcat ttgtgaagcg ttatgtgcca
                                                                       300
aatgctttaa tttttaaggc tcacaacagc cttatgaggt aggaactatc ataagcagat
                                                                       360
```

```
420
ccacactgct gatggaaaaa ttaagtttaa gggaacgtaa ggcgacggct ctgaggcgga
                                                                     422
at
<210> 12949
<211> 25231
<212> DNA
<213> Homo sapiens
<400> 12949
                                                                      60
gaagtatcat gtaaaagacc agaaaaccat attggacaaa aagaagctca tagcattctg
gttggaacgt tatgctaaga gggaaaatgg gaaacctgta acagtgatgt ttgacctgtc
                                                                     120
agaaactgga ataaatagca ttgtaagcat tttttcattc attccaaatc agtgtttatc
                                                                     180
                                                                     240
atggetteet ceetttetee tgteettget geeaaceaea tattgetgta aaattgaggt
                                                                     300
aactaactta tattagggat ttatttttc accttgcagt gtgagtgtag tcaaacatgg
aatagggttt gcagagaatt aaatttgttt ctgtatttgg cgttgaaact gtcgatttcc
                                                                     360
                                                                     420
tagaaatgtt ccttgtctga gacacaggat ggagaggtag catgtcgagg ctggcaaggt
                                                                     480
atgaatcgat gtgataactg tgaactttga tatcaaagct aatatcctat agcacctgcc
                                                                     540
ccggtgtgtg ccacatagta atatattcag gaaatatcaa gtaaggtaat ataccatctc
                                                                     600
gaatttgtta tattcatacc atgttttaca gttgcaagat gttcacatga gttttgcaca
                                                                     660
tataacactt tgtgatttta ttgagtgttt ttgtttgctt gtttggattt gttttctatc
tgtttgattt ggttagcttt ggaaaccagt tttcttcagg tgattttgcc aagcttgaaa
                                                                     720
                                                                     780
aataagtaaa acctacctgt ctttaatttg ggtccttgtg accttagtga tacctacaaa
                                                                     840
cccttcagca gcaattgaga tcacttggca catttattct aactactgtc tcttatattt
                                                                     900
aatctgtggc taattctgat agcagtaatg tcgtattcac aaacgtgctc agggcagtgt
                                                                     960
tgaaatcttt ttggaattcc atttggcaaa ttatgttaag aaccttaaag tgtttgtatt
tatattcttt gcctggtaac caacttctgg aaatctattc taaagaaata atcctgagta
                                                                    1020
cagaaaaagc atcatacatc aaaatatttt cccagtgtca tttaaagtaa tgaaaaatta
                                                                    1080
gaaaaaaata taaatgttca acatgatgaa atggcaaatt atggtatatc tagttagttg
                                                                    1140
                                                                    1200
atggagtata catatagcta tgtaaaatgg tgtttttaag gaatttatag taatattgga
                                                                    1260
gagaacactt ttttctgaga tgaaaaaagc tgtatgatta tacatactat aatatgtatg
tattctatac catggtgata catagcccaa caaaggaaac tgtagacata acacaaaacc
                                                                    1320
agctagagag aactgctaac aagagctttc ttgcagtggt aggaccacaa attttttca
                                                                    1380
tgtttctatt tctcttttta tttttcaagg atccgatgcc ctggagtttt ccaacctagt
                                                                    1440
ttccatgtca gtggttttaa attagagaaa gtaaattatt ttatatccaa aatcaaaatc
                                                                    1500
aatttgccta gataaataaa tattccataa aaataaatcc tgattctttt gtcctttgga
                                                                    1560
tatgatagtt tcctaattat taacccagaa tcatgaagaa taaatgttaa tatttttgtt
                                                                    1620
gccaagtata aggacagaga attgacttga actgttttat tttttcaagc tacttatatc
                                                                    1680
tcaccatctt taatttgtaa ataaggtgta tttgcactac taagtattta agtcattatt
                                                                    1740
gttttaaaat acttgaatct tactgaataa tttattttca taaatgaccc tttcatgagt
                                                                    1800
cacaaagaat ttaagtgagc ttataaacat gtcacaaaga atttaggtga gcttataaat
                                                                    1860
                                                                    1920
ttcaaggcaa aaaataagaa aatcatttgt tagagttggg acaccagttt ggctctaagc
tttcagctgc ctgcctgaaa gaaatgcaat catttaaaat tattcagcgg ccatccttca
                                                                    1980
caaccagtgt cttagaagta tatccattcc taatacttga actagaaagt ctttcatggg
                                                                    2040
                                                                    2100
tcctcaaaag gacgttttac aagataataa cagcctcctc gaaaacatcc ttatagaatg
                                                                    2160
ctgagcaata gggttgatgg agctatttct tgtagtcccc attaatagaa tacaccagtg
                                                                    2220
acatcttatc atatccactt gaattagcag taactcacga ttttacgaag aaggatattc
aattaaataa atgatagaaa caagaatgtt attccaagac tatttagaca aagtctctgg
                                                                    2280
gggccataaa ttctagacta ggtaaccaca tttttatata actggttctt ttcagctatt
                                                                    2340
ttctttgact gttacttaac tgccaattat gaaaactcca tgcacagtgg ctataatgat
                                                                    2400
tagttacaaa ggtattatta tatatatata tacacacaaa ggtattttat atatatatat
                                                                    2460
2520
tatatatata cccataacaa atacttaaga tagttaagga tgcttacttt tagtttactg
                                                                    2580
caattaaaga tgctgcaact aacattccag ggatgaattt atagacactt atctctagga
                                                                    2640
aaacccacct ttccagtaat tgtgatggat ttcagtttgc ttggttgtat ctttcatccc
                                                                    2700
                                                                    2760
acagtettta taagatggee aateagaatt agtgaateag tatgtggeea tggagtgaaa
tgactcatgg aaataacctt aatgacctaa tttcctgttg ctgtgctcaa agcagtagaa
                                                                    2820
                                                                    2880
ccaaccagat agctatgttt gtagtctccc agaaatcaga atcagtgaac aacactggaa
                                                                    2940
tataaactaa aaaactaatt ctaggtctct aaataaaatt taaaaagcca gaaatggagt
agatacagca ggccaatgtg attagattaa gtattgtgtt taaaaaaggt tgataaaata
                                                                    3000
tattttattg acactattat gtggtgtaaa aattaggatt aaaaagcaaa tatatgagaa
                                                                    3060
```

tttacataca tgtgtattat tatcccaagt agtctgatta taaactgtat acttgtttca 3120 3180 ataattettt agttatteaa eagattttta gaatttetet atggagattg ettttagate 3240 cattttatgc cctgttgcct tagtagcctg aagtgtgtaa ctagtttgag gtaatgtgaa 3300 taattttaaa acatcactaa gcatctggtt tetteaagte agttttaggg etgattatta 3360 taaatagctt aatgacctaa aaccttaatc cttgagaata tagatattta catatgagct 3420 tactttttaa agaatttaat aattgtctca cttgtattta ataatttatc acctttagaa atgtgcaatt ttaagttctc taatgtggac agtcttaaag atttaatctt tattttagga 3480 catggacttt gtacgcttta tcatcaactg ctttaaggtt tattacccta aatacctctg 3540 taagtaactt actcctttat aaaaaatata acatattgaa actgtagaca atgtctgaga 3600 attgtggagc cttatgttat tatagacttt catacctgaa actttgtttt ctgatgaaga 3660 attttaaatg tgttcataga cattattgta acacatacag aggaaagttt ttcataagta 3720 ttcattgtcc ttcacagtta attttaagag tttaagttct aaactatata tatggcatcc 3780 tataacacac acacccactc acacacatag gtacataaaa gcatacattt atttcaaaat 3840 tatctcattt ttactaatat ttcaatttag aaattcattt caaatagtat ttattatatg 3900 aaacttcttg catacaagaa cagataagca gtattgatag agtacactgt ataataagca 3960 atattgatat ataaagtaca ctgttaccaa ctgctactta aaaattgtca ttaagaaaat 4020 acttgactag aaggtactac atttgaatct ggcatttgga gtttgtttgt tttttattgt 4080 gactattcca ttaattacct gaatgaagaa ctcctaaacc ttatatagtc catttttac 4200 ttgttgaatt tgtatgatgg gttcacccta gggaagccga gatgccaact cacataaaca 4260 qtcaaqtata tttaacccca atggtttaaa agtgaaaaga cagcagagag gcaacaggga 4320 tgtcagaaaa tgggaattta cagatctgcc tgagcgtact cctagaaaac agcaaattgg gtcttttggg actcgtgact caggtgactt tagcataaaa tccctaaatt atcttaattt 4380 4440 ggcatgttaa ttttattgtt aatgtgaagt gaggaataga caaaaagcat aatggatatc 4500 aagagtcagt gccaccccta gctgtatact ctcatctttt cagagagagt attcatgaat 4560 atttttaggt aaaaagaatg atcaatagtg tccagtttgg ggaacctgta ctatcttctg 4620 ttccttatgg atttttcctg tatctggcat gtaccctgat tccttaaggc ctccagagca 4680 gtgccagtca ttggtcagta gggaatcact accccatagt tttagtttgt tgctcttatg 4740 gacaaaatga aaaaatatcc acttgatcat tgaaatatct aaaggagttt gtgaagagcc 4800 acttatcagt agtataaata ttattattac tttgtaaaat acatctgaga ttcttttgag agaactatta aaaagttaat agatctatat aaagatgagt tgtaatacta ttcatcttaa 4860 4920 ctagagattt tatatatata tatatacaca cacacatata tatatattct acctacataa tatagttttg cagacattga atttcgtgga atcttaattg attatgcttc aaaatctgtc 4980 atgaagaata actattatat cttaaaatct tgagtccaca ttattttaag catatcccag 5040 acgaagactg aggtattaag caccagggtg cctctttaca gatgcctttt tccttatatg 5100 tactttactt gtcctacatt aatgcaacaa ctctaagagg ttctctgctc agagaagagt 5160 5220 gaaattacat tttgattcct ctggaataga ggaatgaatt gaatctcaaa aatcttcttt gcagtttctg gttctttctc acagttgtct cagttgttaa tagggctgtt tagtatcttc 5280 aactcagtgt gtaaataata cttatgcata ctttggaatt attagcttcc tggagctcat 5340 gatataaagt agaaataatt tttgtttctg aaaacgtagt gatgtattaa aaggggaggg 5400 ggcaactgtg agactggttt aacaatagaa tctctagaaa attgtaattg aaaccataaa 5460 5520 ttagacctgg aaatgatttt aaagttcagt ggcttcagca ctactttgac atgccacatc caaaaactcc atttatccac ttaactgttt tcttttgtac ctccctgcaa acaacaaaag 5580 5640 cagtgagtga caaaagaata ggctgtttac cagaggacag tgacagtgca ctattgattt cccacaagtc ttcctcctgg gctggcacct caccattgtg acatgctagt tcagttccag 5700 caccacatgg aatactattc atgatactat acacttcact gaattagagc tcagacaaca 5760 agctcagttt ttacttaaat ttagatgacc agttttttct aggctggtat gagtgatatt 5820 attatagagg tactgattca cattcaatga attttttttc atctttcagc aaaaatagtg 5880 5940 atctttgata tgccttggtt aatgaatggt gagtatattt atactttctt aaaacaaaat gtctaatttc ctttactttg ccgatttagc catatttcta caattgttta aaataatgtt 6000 tatattgtcc tttgcatgct ctcttaagag actggagcta gaacactcaa aggctattcc 6060 taagcaaaca gggctaaaat tttataccca ggatctgggg gcacccatta gtcttcttta 6120 aaaacagcct tgccaggcat ggtgttgcac ggctatagtc ctagctactc aggaggctga 6180 ggcaggagga tcacttgaac ccatgagttt gaggccagcc tgggcaacat aatgataccc 6240 atctcttaaa aaaaaaaaaa aattaacaac agcctcaaat attcaaccat taaggtaata 6300 ctctagtcag aagcctcaat ttgtcatgca cagataaggt atgtcacaga acacaggcct 6360 tgtctaggtt tctcatgggc ttcaggtgtt gagaaagaag gtggaatcag tctgaaactc 6420 6480 accccaaatc actgtagtga catgaccctt ttgacagtca tgatatattt tttggtaaaa 6540 tttttttgaa aaagccattg attgataaac tgtcttgacc aactttaaaa ttactgtaaa ttgaatgtta ttttcagaat gtacattctc atttgtgttt gcaaaagtca gttgttacat 6600 agaaagcaat agagaaaatc aacaaatcca aaatttggtt ctttggaaaa tgcaacacaa 6660 ttgacaaacc tttagctaat aaagaagaaa aggaaagact caaagtatta aaatctgtaa 6720 tgaaagaagg gacattacta ttgaccttaa agaaataaaa aggactatag ggagatactg 6780 tgaatgatta tatgcaaaga aattagataa cctacatgaa gtgaacaaat tcttagaaag 6840 acacaaacta ctgaaactaa ttcaagaaga atcagaatag aaatataaaa aaggaagttg 6900 aattagtaat caaaaaaaac ttcccacgaa gaaaagccca ggcccagatg gcttcactgg 6960 7020 taaattatgt gaaatattta aagaagaatc aacatgaatc cttcacaaat tcttccaaga aatagaagaa gagggaatac tttccaactt attttatgag gcaagtataa ccataatacc 7080 aaacatcaca ggaaaagaaa actacagact ggtattcctt atgaaaatag atgcaacagc 7140 7200 cctcaacgaa gtactagcaa attgaatcca gcagcatata aaaaggatta tacaccatga 7260 ccaagtgggc tcaacatatg aaaatcaact aatgtaatct accatattaa tataatgaag 7320 gggaaaatta tgtgatcatc tcaagagaca cagaaaaagc atttgacaaa atctagtacc 7380 ttctcatgat aaaagtactc aacaaactag caacgtaagg tgcaaagagt tgaaacaact 7440 accaagttag accacagtag tccacacaag accacccca tttctgacac aaactgcaag ttcaggaggt gctcaaaatt gcccttaggt ttgataagtc tagtgaagga ctctgagaac 7500 tcactgaaaa ctattatact cacaattatg gtttattaca gggaaagaat ttagattaag 7560 gtcaaccaca gaaagtaagg tgtagggcag agtccaagga agtaccaaat gttgagcata 7620 7680 ttacttcact ggcatcaatg tgtggcaatg tgcatggagt tagtcaacct gggaagctca cccaagcctc agtgttcaga gtttttattg gaactccatt atgtaagcat gattgattgc 7740 ccatgtggtt gatcttagtc ttcagtctcc cccaaggtct actgatactg tgtaacccaa 7800 acgcctaccc tgaatcacac tgttggtctt tcttctatgg ccagttccta ccctaagtca 7860 tattgtccca ttgtcactta aggcccccag acaaacaaag acaatcctat caggcatgaa 7920 gattacctct cagaagctga gggcaaagtg cagatctctc tttgggtaag gctaatcctt 7980 8040 cacagaaaag aacttcctcc acctgtttat aaagggcata tatgaaaaac ctgaatctat 8100 gaaaacccac agctaacatc ttacttagca gggaaagaat ggatgcttcc cccctaagat 8160 cagtaacaag acaacactgt ctctcttacc acttctatta ataaaagaag ttcaagacaa 8220 ggacacggaa aattacaaaa ccccatttta gtaaattcaa gccttacata aatgaaaaga catgttgttc atggattgga agacttaata cagtctttct tcagtatcca tgggggactg 8280 gttccagaac ccctcccca ccaccaccac agactccaaa atccttggat gctcaagtcc 8340 8400 ctcatataaa atcgtatagt atttgcatgt aactgacaca cgtcttcctg tatacctttt 8460 tttttgtttg ttttttgaga tgagtctcat tctgtcacct aggctggagt acattatcac aatctcagct cactgcatcc tctgcctccc aggttcaaac gattctcctg cctcagcctc 8520 ccaagtagct gggactatag gcacctacca ccacacctgg ctaattttta tattttagt 8580 agacacaagg tttcaccaca tttgccaggc tggtctagtc ttgaacctca agtgctctgc 8640 ctgccccgcc ctcccaaagt gctaggatta caggcataag tcatcatacc tggcccctcc 8700 8760 tatatacttt aaatcatctt tagattattt ataataccta acacagtgtg agtgctatat 8820 agttgttcta ctctattgtt tcttatttat atttttgtcg tattggtttt atttatttt taatattttc aattgtggtt ggtgaatcaa aaatccatgg atgtgaaacc tgtggatatg 8880 gagggccgac tgtattgtta agaggtcaac acttcccaaa ttgatctact gattcagtgc 8940 agtccctatc aaaagcccag ctgccttttt tgcagaaatg gatatgtttg tcccaaaatt 9000 catatgaaaa tgcaagaaac caagagtagt caaatcttga aatagaaaca cagagttgga 9060 9120 ggacttaaca cttcctgatt tcaaaattta ctacaaagct acagcaatca agacattggg 9180 catgtatggg cataaggata aacgtataga tcagtgaaat cgaattgagg gtccagatat 9240 aaaccctaat gtttattatg gtcagttgat ttttttttac aatggtgcca agactattca 9300 gtagagaaat aaggettttt aaataaaagg tgetaggaca aetgggtate cacatteaaa ggaatgaagt tggaccccac cttacatcat atataaaaat taattcaaaa tgaatcagaa 9360 9420 acctaaatgt aagagctaaa tctcttagaa gaaacacagg attaaatcct tgtgcttgga ttgggcaatg gtttcttaga tatgacaaca aaagcacaag caacaaaata aacagataac 9480 attggactgc attaaaattg aaaacttgtg ccttcaagga cactaccaag taggtgaaaa 9540 gacaattctc agaatggaag aaatcattta caaaccatac attttataag ggacttattc 9600 tagaatatat aaagaactct tacaatgcaa tgttaaaaag acaagtggct gggcatggtg 9660 actcacgcct gtaatcctag cactttggga ggccgaggtg ggcagatcac ctgaggtcag 9720 aagttggaga ccaacctggc taacatggta aaaccccatc ttgactaaaa atagaaaatt 9780 agccaagcat ggtggcacac gcctgtaatc ccagctactt gggaagctga ggcaggagaa 9840 tcgcttgaac ccaggaggca gaggttgcag tgagccaaga ttgcgccatt gctctccaac 9900 ctgggcaaca agagtgaaac tctgtctcaa aaaaaaacaa gtaacccaat taaacgagtg 9960 aaatatttga atagatgttt ttctaaagaa gataaacaaa tgggcaataa gcacataaag 10020 agatgctgag catcagtagt cattagagaa atgcaagtca aaaccaagtg aggtgtgatt 10080 tcacacctac tagggtggct agaataaaaa agacataata acaggtattg gcaaggatat 10140 ggagacattg gaagcctcat acactgctgg tgagaatgtt aagatggtct ggccacatca 10200 gaaaacagtt cggtagctaa acatagaatt accatatgac ccaaaattcc actccttagt 10260 atatgcccaa gagaagtgac aacgtatgtc tacagaaaaa cttgtacaca aatgttcatg 10320 gcagcattat tcataataac aaaaagtgga aacagcctaa atattcatca gttgctgaat 10380

```
ggaaaagcaa atattgcata tctataaaat ggacaattat tcagtcataa aagggaatta
agtactgata catgctacat tatgaatgaa acttgaaaat gtgccaagtg aacaaagcca
gtagaaaaag ccatgttgta tggtttcatt tatataaaat gtccaaaata agcaaatcca
                                                                 10560
tgaagacaga aaatagatta gtagttgcta aggacttgga gaaggaggcc taaagagaga
                                                                 10620
                                                                 10680
gtgatggtgg ttgcacaatt ctgtgaatat actaacaacc attgacttgt ataaaggggg
                                                                 10740
gattttatgg catgtaaatt atatctcaat aaagttatga aaaatcagat ttatcagatt
                                                                 10800
aaagtagcat agtttcaaac atgtcaactc acattttaaa ttgaaaattaa tgaaaattta
                                                                 10860
aatgttatgt aaaaaactta tagttagcta aaataaaaag atacttctcc gaaccattta
                                                                 10920
atgtttatca tactgttctt agtttctgtt tttttaattg acagttttgc aaatttaatg
                                                                 10980
cagtatttct cttttaattt cttaaaaatg tacttagatt gtcacagtga aaatgaggtt
                                                                  11040
                                                                  11100
taaaaattaa gcataaataa gaaatgacat gacagaacaa gattgtaatt accaaacagc
tgtgtttgat aacagaacag ggcagttcgt gccactgcac tccagcctgg gtgacagagt
gagactctgt ctcaaaaaaa atttaaaaac cagtttattt ttgagatttc gtaagtttcc
cacaattata taaactgcaa ggcctgggag agaggcagag aagtgtaggg ttagaaagga
aggctggatc cagctcacac tcataataag aagggctatt tctttctttc ttttctgact
                                                                  11340
                                                                  11400
cgctgtttga gaaggttttt cagatagaga gtttatcaga accataaggt aaatgactct
                                                                 11460
ttccatacta ttgtgcagtt atttcctgaa tcatattgct gtttgattca gtgtctggaa
atctaaatag ttgggatcat tgatggattt gttcagaggc caaaaccctg ataagtttat
                                                                  11520
                                                                 11580
taatgaacat cagggtaatt taatcttcct gaatcttcat ggaacatttg aaacccataa
                                                                  11640
gggagagcca caatgtaaac gcctacagaa attagagaat gttaattaag tacatcacgt
aaagataaat attaacagat tatagcccaa actgatttca gaagacctgg gttagcattt
                                                                  11700
atggtaaatt aattgagact aggaatgatg agaattttaa tgaagtgact ggtttttctt
                                                                  11760
cagctgcttt caaaattgtg aaaacctggc ttggtccaga agcagtgagc ttgttgaagt
                                                                  11820
ttacaagcaa aaatgaagtc caggactatg tcagtgtaga atacctgcct ccccacatgg
                                                                  11880
                                                                  11940
gtggaactgt aagtatttga aacttgttta taaaacaata ctggataatg gcacattagg
                                                                  12000
ctgtatactt tcctcaaggg aaaaagaaaa gtagtaccat aatatgcaaa gaaatatcac
agataccccc aaaatagcaa gtagtgttac acacattttt aaagttttaa agttaatttt
                                                                  12060
ttatttttta ataggtaata tatttatgtg gttctaaact gaagagtatt cagaagaata
                                                                  12120
atgagaaata agtcttcagt aaaaatatca cctcctactt ctgtttccaa ccaccatatt
                                                                  12180
ccctccccag ctgaatttct tgtattaatt tgcagggata tgtattaccc atataaacaa
                                                                  12240
gtatagtata taatttttcc tccctctcat ctcttctaaa gtcagtgtat ttatgtgcta
                                                                  12360
gtgtgcatcc tgcttttctc ttcacagtac gtcttattcc aaatcaatat gtagcaggct
ctcatactca tttatggctg catagtattc tactatctag acataagtta gtgaatttcc
                                                                  12420
tcttgatgtg tctttagtgt gcttccaatt gtttgctgtt caacagtctt tttagttaaa
                                                                  12480
aagatactat taagcatata ctatccagat ttttttgagc tgatttttac tacttataaa
                                                                  12540
aaaactgtac aacttatgga cttggtacgc tttgggttaa cttcataatg tttcacttat
                                                                  12600
ttgatttttt tgcaatctat tttttatact gcctgcctgg caaaattgta ttcaatcaga
                                                                  12660
actagcaaga ggaatagttt cgatatgtcc ttctgtttat tgtctttgat tagaaaagac
                                                                  12720
ctgaacaaat atttttaatt tgaagtctgc ttctttctta ttctaaggct ttatatttca
                                                                  12780
cattttcacc tagaaaaacc aaatatactt catttcaggt gctatgcttg atttaaaatg
                                                                  12840
tgattttatt tatttttaat aatttgctca taaaattgtt atatcttaaa taattataat
                                                                  12900
taatataatt cataacattt taaataatgt taattttatg tatagaaacg gttattttat
                                                                  12960
ttcccctctc tgtccttagt gatatgtttc ttcagaatta cagtcaaaat tatagtagga
                                                                  13020
ctactatttt ttaacattaa tttttaagta tttttttca aaaaataata catatacatg
                                                                  13080
atttttaat aaagtaaata caataccaga gattgaaaag tataacagta ccatgaaaac
                                                                  13140
tacatctgcc ttcccaggtc catgcccact gccactccct aaaggcagtc accatcaagt
                                                                  13200
tttctatccc tctggagtta tctattacag ttttttacac aatggtcaca taccatatat
                                                                  13260
attgtccatt tgtacttttt tcacatcttt tattttgcag gttacaccat attgattcac
                                                                  13320
agaggtctat ctcattttta aaccaaaata ttccactgta tggacgggta taacataatt
                                                                  13380
gatttaatca ctcttctttt aaagggctgc actgatagtt gtattctaat tttttgccat
                                                                  13440
tactagtttt gctgcagtga atatccttgt aataattctt aatatatgtg tgcagcgaga
                                                                  13500
atgcatacag aataaactcc tagaaaaaaa tctgtgagta tagtttttaa tttagatagc
                                                                  13560
tgttgccaaa tttcctctaa agagattgtg cccatttacc aataatgtgt gagaattctt
                                                                  13620
gaaccacctc cttgccagca tcgcatattc tcatttttgt agtcattgcc agtctcaggt
                                                                  13680
aaaaaatatt tcactgtcat tttaatttgc atttctttaa ttataggtga tgttgaaaac
                                                                  13740
tttcttatga ttcaaaagac aattttcatt ctttttcagt gtattctgta tccctcttct
                                                                  13800
                                                                  13860
cacaaacaac atatacattt aaagctttta tccatctgaa attctttttg gtgtagagag
                                                                  13920
cgagctaaag atctaaggtg attctgtata gatggctagc caattgtccc acaccactta
                                                                  13980
ttgctctttt tctttctggt ttgaaatgct tcctttattt taaatttcat gatctaatta
                                                                  14040
```

14100 agtctgtttt cttggccaaa gtaatgaatt gtaaatctac taagagagtt atttctctac ccaccattta gtaggctcat gtgaaattat tttcttgtag gatcctttca agtatagcta tccaccacta gtagatgatg acttccagac cccactgtgt gagaatgggc ctattaccag 14280 tgaggatgaa acttcaagta aagaagacat agaaagtgat ggcaaagaaa cattggaaac 14340 aatttctaat gaagaacaaa cacctcttct taaaaaggta actttataaa taaaatgaaa ctgaatcaca agatgtggtc tatccccaat tctgacacta gccagctgtg tgattttggg taattcactt aacctgctac ccttccacat ttttgtgtgt aaaaagaaag aggaaggatg ggattagctg accagaagca ccactttagt gtatttaagt ctgattccag gccagggcct gtgtcttata cctgtaatcc tagcactttc tgaggctgag gtggaaggat cgcttgagca ccggagtttg agaccatccc gagcaacata gggaggccct gtctctacaa aaaataaaaa attagccaga tgtgatggtg cacacctgtc atcccagcta ctctggaggc tgagttggga agatcgcttg agcccaggag gtcgaggctg tactgagcca tgattgtgcc actgcactct tgtataaaga ctagcaaaac acatctagaa gtaattgttt tatctaaaat ttttttattt gtctaaaagt aattaattta aaactttgat ttagttcctt tctctaattt ttaaaagagc acttagtagt tgtcactttt tacaagtaat caggaacttg atagatggat aaatacaatg 15060 ttataattta gaaaaattta aagactctta agggaaggac catattgtat tttctagagt 15120 aacctatgtt atgtataata gtaggcacta aaatagatgt taatggtcat gttaatatat gctaaatagt tatccttttt ttttgtcttt agattaaccc aaccgaatct acttccaaag 15180 cagaagaaaa tgaaaaagtt gattcaaaag tgaaagcttt caagaaacca ttgagtgtat 15240 ttaaaggccc cttactacac atcaggtaat cgtcaaagat tttattagct ataattttat aacatatctt gatcaccttg agggagccac aaaattaaga aaacttctat ttggtttttg 15360 aaactgtaga aatataaaac caagagttat ctgaagactt accttggttt ccagacgtag tgcatatgtt tagctacctt gctttcttct attatgttga gtgtctttaa agggttctca tcacacatca gataataaaa ctaaatattt atatattaat aaatctgaat ggcatgtatt ttcctcacat tactgatact attagacttg cccaagtttg ggaatgccag aaatgacact aaagtaagga tttgttgatt ttactttcca gaagccaaag atgaactgga aaaataggtt tgtgactaaa gccaaacttc aggacatctc tatttttctg ctaggttatt tgattcaaaa 15720 gattccaggt tgtttctttc agcattgtat aaagaccttt ttctcactga tgatgttttt 15780 ggttggtaaa tatattttgc cttacgttac attgctacac caactttatg atctcatgta 15840 gcattttctg tccctttact tgaaaccttt ctgtatagct atgttttatg tatatctctt 15900 atgaacaata tagccagact tttaaaaaaat ctaatctgac attctctaat tgatagtatt 15960 agcttgttta catatatttt gattactgtt atatttggat ttatctccgc catctatatg 16020 tatgaaagac agcaagcaag agagacatag atgcgcatgc attttctgtt tttcatggtt 16080 tttctttccc attttccccc tttggagttt atcttttttg tttgtttact tgttcccatt 16140 tttctcccta cttatttgga agttacacat tctgttttca ctgtaaacct gttacatcat 16200 aggtccttgc ctgtaattgt agaggtatga caggaaaagc aggctaggga gaaagccaga 16260 cagettttca cetgeacatt gggetetget eetecettee teegeeeeeg gtgaagteee 16320 agagctgctc ctacacagac acaaggacct aaccaacctc tgtcttcctg gagctgctca 16380 cagttgttgt gctggttact aagaacaatg agatccataa ccttgtggtt ttctatgact 16440 tacttaagat taggetetag aagaaageea geaaceatge aaatttaeea eettateeaa 16500 aactaggcaa agcccttctg ggagagctca ttcttaaaaa catgtgttag ttagattaaa 16560 aaacactccc aaggtacaga cattcctgat ataaaattaa cctatttaaa gatgtatctc 16620 aaaatcaacg gcttgctgaa aattcacttt agttaaatta ttcacctttt tatataaaac 16680 aaaaacacta ttcttcccat tgttttgagc cacctgatac aatttggcta atgtaactaa 16740 actacacaaa ctgcttgaat cttttaaatt tttttttagg tcataggcat tacaatggaa 16800 agtaatagta aaatttaaat attgaagctc attgatttta ctatttgatt agttcttcct 16860 acagctccca tcccaaactt acttttatgt ttacttttct ccttccctat tacttagaaa 16920 agctgctata tagtaagaaa ttattctgtt aaatacattc ctaatcatct ttctttttaa 16980 gttatgctct tttctgttgg tgtatagaaa tatgcctcat tctaattatt tgtaattagg 17040 taaagttgaa gcagcaatat cttctttgct ttattatcta taaccttcca aatagtttaa 17100 ataagcgcac cttaagatag tgctgattat aggattaatc agagccttca taactctctc 17160 ttctgttctt cctggtttgc ttttgatctt ggggaaaacc gtaggacttt ttaaatagtg tgcattgaat cagtaagatt aaaatacaaa attgtattag gtaattgttt tgtaagtctt ttttggtgaa atgtctttat acaaatgagc ataagatatt aactaaatat ttttcttcaa 17340 17400 gctaaatgat tagattgtca tttattctga ttattacaaa tgtcttatgt ttttgtcact ccctagccca gcagaagaac tgtactttgg aagtacagaa tccggagaga agaaaacctt 17460 17520 aatagtgttg acaaatgtaa ctaaaaatat agtggcattt aaggtaaata tcttaaagat 17580 acaataaatt atgtttgaga atttgacatg ggaagtgatt ttagacatat tctaattgaa agattgaaaa ttttgaactt gtacagtgtt tttatttatg acaattttta ggcatgttgt 17640 actaccttct ggttctaacc aagtcgcata gctttatcaa aaaattttcc ctgaggtctg 17700 tatctqaatc ttttacgtgc agtaataggt taatgtctaa gttaatacaa gggtttaatg tttgttgtaa ataacaaccc aagaaaaatt actctttact atgtgaataa tttaatttat aataacagtg aaacataaaa ctataaaatt gatagtgcat tttccccaag tgtggtatat 17880 tctggagtgt agtttatatc ggatattaac ctgatactga gcattaagtg taacaagact 17940 aagtccgtca ctaccccgta ttgtaggttt tcctgcctta aatcttctat ttaatttaga 18000 tgtaactacc aggatgttcc tgatgtgctt tgattatcta ctgtttttta atttctgaac 18060 accatggtat taataacatg caatctaatg tgcattctgt ttttgtgaat ttatgtcatt 18120 aaattcaggc aattaacagg ataaatattt aacagatgga ttgttttatt taagagggag tctgaatgac aatttgactt atatatgagt atgtttttag ataggttgag atgctttttt cctgttagtg gggaaaaaat accttctatg cataatcgtc aatgttactt tgtaaactct ttgttcattg attattcact gctaattttt tttttaggga gatataccta atgctaaatg acgagttaat gggtgcagca caccaacatg gcacatgtat acatatgtaa caaacctgca cyttytycac atytacccta aaacttaaag tataataaaa ataaaaaaaa taaaaataaa 18540 aataaaaata aattttttta aagtcattct taagccattt ccccccaaaa aagcataaag 18600 gttgttatgt gactactgtg tttataaata ggtgagaaca acagctccag aaaaatacag 18660 agtcaagcca agcaatagca gctgtgaccc gggtgcatca gtggatatag ttgtgtctcc 18720 ccatgggggt gagttgtcac ttagtagcca cagcaggtgt tgggtgtggt gggggtaagg 18780 ggacctggac cttggctctg agtcagcaga gatgtcaggc tagaatctag aaattagcag agtatcacga gtcacctcac ctcgctgtag acatcttttt tcccacatgt gaaatggggt 18840 ggtcaaagag gtctctaaag ccctttccag cattaaaatg tattgtttct aacaagtaaa 18900 attgtttaaa ctgacaccaa ttgaaattga atttcaaaag agaaatttcc tcacttttag 18960 aactttttcc tttttaaaga catttccatt ttcttctttt tccttaatgt tgagttccag 19020 aataatgctt taaaccacat gcatatccaa ccgctttgaa ggttcctgtt tatatgctga 19080 attacccttt tggaatgcag gtttaacagt ctctgcccaa gaccgttttc tgataatggc 19140 tgcagaaatg gaacagtcat ctggcacagg cccagcagaa ttaactcagt tttggaaaga 19200 agttcccaga aacaaagtga tggaacatag gtaagctttt ccctcacatt cttctcaaat 19260 gtagtgggaa gaatcagaaa gagaaaagtg cctccatgga ccaggtggcc tccctttctt 19320 19380 cttgcatctg ctgggtgccc tgcaaggctc tggggatgcc cagatgaaag agacctggtg ttgctcaagg aggtcactga tagcagaaac tcatttgcag gccagtgcaa gagtctggat 19440 ctgtccagat cacaaacaca gattgtctca gcagttctcc ctgtaggagt gcttacctta 19500 19560 catactagaa tgttttttgc agcattgttt gtaatagtga aaaactggaa agaaagaatc taaatcgtaa ccagtaaagc aatagtgaga tacatttgag tatatccaca ctaaagtgtg 19620 19680 ctgcaaccac tcataaaggt acagcaagtc tatttgttct gacatggaaa gacatctgtg atatatttta gaaaacaaat ctagtgagaa aaattggtta tggacattat tctatttaag 19740 agggggaaaa acttgcatat atagatatat acatgtatgt gcatgtatat agatatatca 19800 ggttgtgaca aatttcttga aaagatatgt agaaaaggag aatagaaggg gctgtattgt 19860 agttttgctt tttttaaatt ggaattatgg tttattggag tgttcacatt tttcccccca 19920 ggggacattt gtcaatgtct ggagacactt ttggttgtca caactggggg atggggtaca 19980 gtgggcatct aatgggggca gcatagggat gctgctaaac cactagcagt acacaggaca 20040 gccccatccc ccaaaaatga tctggcccca aatgcccata gtgtcgaggt ggagaaatcc 20100 tgctttatag ggtagttaag gatggccact ccgatgacat tagagtaggc cctgaaggaa 20160 atgagagagc aagccacata gataactgga cagagacctt tccagacaga acaacaaatg 20220 caaaaggagt gtgcttggcc tttgggagga acaacaagga agtcactgtc tcttgactcc 20280 agtaagggag gagcatggtg agagatgggg acagagatag taggatatca gatcatccct 20340 atggtgagga cttctgagcg agaggaaaaa ctattagttg gcactaagca gagccatgag 20400 gtgatccggg cttatttttt taaaggattc ttctgggtac tgtgtagaaa ctagacggtg 20460 ggcagtgata ccaagttcac actaaagtgg aatttgctgt atgccagcac tgttctagat 20520 gctttagaca tattgattca ttcagtcatg aagacagccc tgtgagggag aaaggcattt 20580 ttcctacttt atagagaagc tgggaaacct gataatggct atggttgaat gaaaccttca 20640 gggctgggcg cagtggctca cacctgtaat cccaacactt tgcgaggctg aggtgggagg 20700 actgcttgag cccaggagtc caagaccacc cttggcaaca tagggaaact ttctttctac 20760 aaaaaatcaa aagcttagct gatagatcat gaaaatagat tatgaacagt gaaattcctg 20820 agaaggctga aagtgcgggg aaccaaagca ggggagatta gccttagtcc ggaggaggga 20880 gaagcagatg gaagtcagca gcctgccttg tttttacgtg taatatttaa attttcaaat 20940 tgtattacag gagggcctac tttctgtttt tatcaagagt ttttcttttg ttcaaagaca 21000 21060 ctggttatgg gaatattttg aaagggtaag aaacgctggt ataaaaggtg ttgcagatta atttgaagtt cttacgaaac agtccctcaa aatgaagggt tatttttggt tttgttatgt 21120 21180 tcgagttgct ttgttttctt tgttttttgc tttaccaatt actgatggct tgcttttcta 21240 taactgtgag aggagatcac tgttctcctg cagaaagtgg gagggaggct tgatggtggg gtactgaagc tcaaggaaag tacctttctc ctatctagaa agggtgattt ccttcaaatc 21300 ataagatatt tggatgaatt ctactgaata ccatataaac actttcattt gaattttacc 21360 gaatggtatc tgcaatatgt tgtgttcctt atacatgcat taattaacga agctggaaga tacatataca cagagcaact gtcttaggtg aacctgggga agaggaatga ggacttttac ctctgttaca tagacttctg tgtataactg ttttcatttt atattttact tttataagaa 21600 aattaacttt ttaagaagtt atgttttctt tggattttaa taggttaaga tgccatactg 21660 ttgaaagcag taaaccaaac actcttacgt taaaagacaa tgctttcaat atgtcagata 21720 aaaccagtga agatatatgt ctacaagtaa gtatactttc ttcctaccca aacaaagttg 21780 ttaatgctga tcaacattag aaatcccttt ttttctcacg gacataaaga aaaacatttg gcatagacac gatagaaata ctgtcttctt tgtgaagaga tgccaaatca gaaatggtaa 21840 gcaggccaag tgtggtgctg cctgtaatcc cggcactttg ggaggccgag gcaggaggat 21900 cacttgagcc caggagtttg aggccagtct gggcaatata gcgagaccct gtctgtacaa 21960 aaaaattaaa aatgagccag ttgtggtggc acacatctat agtcccagct gaggcaggag 22020 gattgcttga ccctgggagg tcaaggctgc agtgaaccat gatcatgcca ctgcactcca 22080 gcctgggcaa cagaacaaga ccatttctca ataaaaaaag aaaagaaatg gtgtaagcag 22140 22200 tgagttattt ttggagatct actaaccatt tgaaagctct ggccattttt agcaaagcac aaggtacttt ggggagtatc aaataattca gtcttgcaga aaaaagtacc aattagtgca 22260 tttaaatttg aaagagacag aggggctctc tgagtagctg aaggctgctt aagggtttct gtacctctag gaactgactg ctctgctcct gtctcaacta gaaattcaga cctctcaaaa tgagaataag catagacata tctgtccacc aaacaaatct aatgccctgt tgcacttcca cctccttcca ccagccttac agagtagtgg gccccatcct ttcagtgttt ggatttctag tattcctgtt tgtcatgccc atgattaatg gctgttttat tgatataaat ctttcatccc ctcttccctc ttcagctcag tcgtttacta gaaagcaata ggaagcttga agaccaagtt cagcgttgta tctggttcca gcagctgctg ctttccttaa caatgctctt gcttgctttt 22680 gtcacctctt tcttctattt attgtacagt taaagaagtg gtgccgggta ggaaccacgg 22800 ttccttcgtc cattagttgg aaaaagtaac agacctaaaa ctctaccaag ctactaaaaa 22860 cattgcacat ctgtgcttcc taaaaggaaa tatgcagcac gtggagggga acacatacat gtcttgaaaa taaactgcta gaataaagaa atgctggaga aattgattat aagagactat 22920 22980 agctatttag taaagtaagt aaaggcatat ccattgtgta aattaatagt ttaaatataa tttatttttt ccttttgatc tgaatacttt taaagcttaa gttttatcgt gtaaatacat 23040 tagctaaact gaaaagtata agtaacatgc tttgttgcag ccaaaaaatg taatctgctt 23100 ttttatgaca gaattattat agctgagctg acttactagc ttttctatac tatgtatata 23160 23220 gaagaacatg tatattgaga aagaaaacat acttatatag aggaatttat gtaaccatga ctttgtaatt ttgagaattc ctcccagtga tggtcagtat tcttttggaa tgtaaaccga 23280 tttaatgcca aaccacctta acctttgttt ctcagtgttc cttaacagcc tgccttttat 23340 taatctcagg cttttttatg aacactctca tttcagtaga atttggaaaa ctaagcgtgg 23400 23460 ttggaatttc tttgaattct gttagtaatg cccaaaagaa aagtctcaag cagtccccct atccagtcat ttttatggag tttcatgttg tccactatag ctggacactg aaccttttgc 23520 ctaatttatt ataaaggcct gaccctctat tgtcccatct tcacccccat tccagagcag 23580 aggagtetet gtggaceatg aattgeactg teteceteet catttetaaa tgaaaggtat 23640 tagatataaa tttttttgaa aggttagttg tttgagatgc taagcaggat aataaattta 23700 gattttaaaa tgttccctgt aaaagtcagc ccatgacaag gaaatttaca aaatactaga 23760 23820 gtatctagaa gggtgaaaac aaaaaaaaat aaaaagaaac acagacgccc aggtgtcagc 23880 tctccgttta aagaatgaaa aatgtaactc atgatgatct gtgaaacctt caaactagga 23940 ccaattgact tacttgatat tctgcctttg atatggtagt acccacccgg tattcctaaa atcctaaaaa gatacacctt gcagtagcag aggcaatgac atgagtttgt tttctcatta 24000 atatgaccag tttgggtcta tgttggttca catgtacatc tactttatat gaaagaaaaa 24060 acagttgtct gcctgtaaaa tgttgagttt cgattgagcc atgtttggag attttattac 24120 tattctgaag ggtagtgttg ttggttttca tcttcaagaa gttgattcca aaactgagtt 24180 atgaagaatg atataacagt toottoaaaa ttggcotagg aaataaaaco ttaaaaggac 24240 actggtgtgc tactttgtct taatttgggc ttttctgttt cagtttgcca cctccagctg 24300 tgaaatggac tgcagtccac cctaagtact gtgcacagta tctccctgtg tgtgtgcaca 24360 gtggcttccc cttacatggt agatttttgg ccttaatata atctaatccc aaagtagttg 24420 tgtatgtttt ctgttccttg gcaaataaat gaagaaataa ttagccaaga ttgaaaatgt 24480 attgtcctaa cggtgtccct ttaatgtttc atatgaaaaa ttatgttgac ccactaaaat 24540 atccttgctc aatgtctggt cagttgaatt taataacata tcttgttaat gtttgtgtgt 24600 ctattaaatg tgactaagca ggattactga aaattcacta taaaatcaaa ggcatctaaa 24660 cgtttgtact tgtcttgatt aatcatatat ttacacttga tttttttctg tcttcatttg 24720 tttttattta atcataattg catgattttt ttggtactct aatcagtaat tttattttta 24780 atcatgtcat tacctattca tgaccaaatt accaaggaac caacatttag atttagatat 24840 ttgttttcac ttaggaatgg aaattaatag attttccatg aaagcattag tgaaatatca 24900 ttaccttgat ctgcaagtag cctaaaaatg cgattgctgg taaacctggc ctcaaatttc 24960 atactaccat aactgttttt atatattgcc actaattttg actggattta atagcacttt 25020

```
attgtacaac tacaaaaaaa aatatattcc tagaattgtt gccagtgtaa tttctctaat
gttctggtgc ttttcatata ttttcagtat ttttattact atattggtat tttctttgta
                                                                    25140
taaattgatt gattaaaaga acatgttttc tattttaata tgttttagaa aaataattac
                                                                    25200
                                                                    25231
atttatgaaa taaatatcat caggaaaaaa a
<210> 12950
<211> 2397
<212> DNA
<213> Homo sapiens
<400> 12950
                                                                       60
agcataatga ctttctttt gatatttatc acagtcctcc tgtcaggcgc cagagaggaa
gaagggatcg tctgtctcga cataattcca ttagtcaaga tgaaaactat caccatctcc
                                                                      120
cttacgcaca gcagcaagca atagaggagc ctcgagcctt ccaccctccg aatgtatctc
                                                                      180
cccgtctgct acatcctgct gctcatccac cccagcagaa tgcagtcatg gttgacatac
                                                                      240
atgatcaggt acaataacag aatgtcttgg aaatacagaa gctgaaattt tgtggcagtt
                                                                      300
tgagattttt tttttttggc tttttgttgc aaatttcttt tagtttttac ctaaaatgaa
                                                                      360
gttatttaag ttcctcattc cttttaagaa ttgagattta aattctacac agcttccata
                                                                      420
gaagaaagtt gaacttaaaa aattagtatc ggcccagcac ggtggctcat gcctgtaatc
                                                                      480
ccagcacttt gggaggctga ggcaggcaca tcacttgagc ttaggcattc gagacaagcc
                                                                      540
                                                                      600
taacacagtg aaaccccgtc tctactaaaa gtacgaaaat tagctggatg tggtggtaca
tgtttatgat cccagttgat gcagaagaat cacttgaact caggaggtgg aggttgcagt
                                                                      660
                                                                      720
gagtcaagat cgcaccactg cactgggtgg cagaacgaga cttcgtctca aaaaattaaa
                                                                      780
aaaaaggatc aaggttatga aagcttagaa tgaattcatg tatgcttgat ttgaaattat
tgatttaaga ttagtaggaa atagcagaca actgatggtt tgagtacata ttcctgtttc
                                                                      840
ctagtttctt ctggaataat tcaataagca agacagttgg gtacatcttt gcttataggt
                                                                      900
                                                                      960
tttcataggc ctccaaggag atgacaggta caagcctaca atgtttcatt tcccttttct
                                                                     1020
ttctgccaag aactgaggga ccagctgagg agagaggttg cctatcttca gagcctgagg
                                                                     1080
atgaagacca caattttatg gtggtctttt ctgtggagtt tctgaggtca aaaaaaaaa
                                                                     1140
gacatgtgtc taagcatgtc cttataaaaaa ttgctggatt ttaaggataa gggggaaatc
ttgtgagttt ataaaccaaa aaaaattacc agagaatgct aatgagaata ggatctcaat
                                                                     1200
tttcatctac tgcactagat aataaacaat aacacatagt gacaattgag aaaatatctt
                                                                     1260
acctagatac tcttcttatg ccagacattt ttattatgtt catgaaacac ttaaaaattg
                                                                     1320
atcatgtagg aaagcttacc ttatttgtgg ccgtaacctg ataaaagtat ggatataaaa
                                                                     1380
tactgaaaaa cacaattttt gtaccttctc cccatcccct tgagcaagaa aagcaaaatg
                                                                     1440
gaggaaagtg tttacaaagt cccattttgt aaagcataat taatatgtat atgagtgtat
                                                                     1500
gtatatagga ctatgtgaac acagagaaaa atacagagaa atacatacta ggcttgtagg
                                                                     1560
gtaagtgcta aagtgaagga ggggtggtgg ttagtgatgg agccaaagaa agaaaagact
                                                                     1620
                                                                     1680
gcatttcaga aaaggcaagg tctcatttat gtagtagtgt tacgtgttga gtctgtatat
                                                                     1740
tggaatatga aaacattaca tatgtaaata accagaacaa cacaagaatt agaaatcctg
agcagaccgg tagccatggc agaaattata aaagcataac aaaatccgtc tttaaaatta
                                                                     1800
aaattacacc tgaggccagg tgcagtggcc cacgtctgta atcccagcac tttgggagtc
                                                                     1860
tgaagcaggc ggatcacctg aggcccagga gtttgagacc agcctggcca acatggtgaa
                                                                     1920
accccgtctc tactaaaaat acaaaaaatt ggccgcacgt gatggcaggc acctgtaatc
                                                                     1980
ccagctacta gggaggctga agcaggagaa gcgcttgaac ctgtgaggtg gaggttgcag
                                                                     2040
                                                                     2100
tgagccaagc tcgtgccatt gcactccagc ctgggcaaca gagcgagact ccatctcaaa
aaaataaaaa catctgactt cttgtctaac ctttaaagaa ctggtaattc gaatttaaac
                                                                     2160
tattctagat catagaaaaa gatagcttcc aaatatattt tatgaaacta acacaacctt
                                                                     2220
aacaatgaaa cttcatagat gaatacaaca aaagaaagct gttgactagt ttccctcatg
                                                                     2280
aatacagatg aaaaagtttt aaataataaa ccatagctag tggtgtatta aaagaataag
                                                                     2340
ctgttttcag caagaaggta tgagaacaat tttttaatta aaaaaaagaa aaaagaa
                                                                     2397
<210> 12951
<211> 2523
<212> DNA
<213> Homo sapiens
<400> 12951
aggcattagg aagccttctt tagagttcaa aattttagaa gcctaatttg ctcttacttc
                                                                       60
```

```
cttcaattat gtgccatgtg ttttggtttg tatatgtttt aaattgtata tttccttgga
                                                                   120
atatgcttga aatatttaag aatacatttt caaaatgtat aatactgtat tgttttgttg
                                                                   180
atcagaataa taagtctcag ttaaatgttt gttattactg atagtcaaaa tgctcaatag
                                                                   240
aaatgatgag aggcattggt tccaattcat tgtcaaatga acgttttcta attttgttca
                                                                   300
cagattettt ccctttegat tgttetgtat gttaagatag tggettetge teteactgtt
                                                                   360
ttcctattta tattactagc aggtaggagt gctaattaga aaaacttaga tggtattgaa
                                                                   420
attacagttg acaacttata tttttatgag atggagaaaa aagattaagt tgatataaca
                                                                   480
acaaagtgga cttttttct tccttatcct gcacgaaata ttgcccttgt ttcctctact
                                                                   540
                                                                   600
ttcctcttgg tgttttctct ttttttcaaa cagaaacagg ccaattccat tttcttgagc
aagaaagctt agtgtgttac ttcatcaagg ccagctaata ctgtgttaaa ccgggctgaa
                                                                   660
                                                                   720
aatgagaaaa cttgggagat ggaggaatgg ggaaatggca gtgggatagg tagggaagga
                                                                   780
ttactcttaa ttgttttaaa agccatagga aagtcttcct tgtacgtggc tgtaaattta
taagaactat tgtgtcacat aaaccaacaa gaatgaacct ttgctgcttc agataatttg
                                                                   840
                                                                   900
atttttccag caaggaaatt aataagttac tgattcttca gcatagaaac aactgagaag
                                                                   960
aattaatgca atgtttcttc actagaaaac ccaacccttc atttcttttc attgctccaa
                                                                  1020
aacccagttt tcaactaatg gttttctcat taaactaaat gtttagaaaa gttgtttaga
                                                                  1080
gtttttcttt ttcttttaca tagtcctcct gatccagtat aagactattt agtaacgtgc
                                                                  1140
atttgtatgg tactatctaa agtaagtcag attgatgtta gagatcgggt agctgcggaa
caaaattagt tatatcctaa ttaggtacag tgaatgacac aaaatcattt tagcaatgct
                                                                  1200
tcttaacctt ttggggtcac aggcgttttg agactgatga atcctaggga cttatttacc
                                                                  1260
caggaaaatg cgtatataac atacatatct ccctaaagtt tacaatattg tagtggttca
                                                                  1320
tgggccccct ggttaagagc ccattctaaa gtacaatagg gcatcatccc ttttcctgca
                                                                  1380
aagcccaaaa gtatatttct agggcatgaa aataacttga gtctatttta aggaattgtt
                                                                  1440
tcactctaga ggtagatagg ggacctggct agaatctgac attaaaatat actttttaaa
                                                                  1500
1560
aagttttgga ggttaatgtc tttctctaag atttgccact ttagaaattc aacagaaaag
                                                                   1620
aggtaaaaca gaaatggaat gtatctggaa catttttggc ctccatagtg cagatatact
                                                                   1680
atattaacaa gtaatacatt tatttacctg tcagatctcc aggttttaag attttgagct
                                                                   1740
1800
ttacttacta attcaggatg ttaaaataac atccaagtcg gacaaccacc accaatgcac
                                                                   1860
acagttaatg agatttctaa aatataataa gtacaatgta acaaacgtat agaattttgc
                                                                   1920
atttgttgcc aaaattagat gtttaatgac agcttattta attcccattt gtgggacttc
                                                                   1980
tggaacatag aaaccattat cttacctggt tatcccttga ctaaatagca tatctgcagg
                                                                   2040
aaaatatctt gtttgtagtg atatgcccca atagtgattg atttcactct tgaaatgagt
                                                                   2100
tatatcactt aatttgtata aatgttatga gtggagagac atgtacatgt taaaagcatg
                                                                   2160
ttgcattata tattcatttt ttaaactcta taaatgttaa gaataatata attgcagaaa
                                                                   2220
tatttttctt aaatacaatg tgtaacaaaa ttctccgtag caactcaccc actttgcagt
                                                                   2280
ttatgtgatc cacactttta aagaaattcc ataaatgtat attttgtatt atgtattatt
                                                                   2340
tcctggtcca aagaaaatat gtgaattcag ttctaacttt aagaatgtac tgtttgtttt
                                                                   2400
caagttcatt gaaaaattgc attcagcctg cgaatggttg cagattgtat gttagatgaa
                                                                   2460
aagtagaaat aatttctagt ttggaaaact ggtgccacta aataaacagg caattacata
                                                                   2520
                                                                   2523
atg
<210> 12952
<211> 443
<212> DNA
<213> Homo sapiens
<400> 12952
ttggactgaa gaggcttaag cccattcagt atccttgatt gcatttatcc aacggccttt
                                                                     60
attcttcctg ctgacagcag taactcagag gaataggtag tagatttctg aaaattatcc
                                                                    120
agccatggaa atgtaggtgg ggtttgagtt taaggcattt aaaaatgtaa atatctctag
                                                                    180
ctaaatttat cttaagtaga actctgtgtt tttgtaacac actgccagtg ttaatatcaa
                                                                    240
attttagcca aattattact atgtgtttta atattttaaa ataatttcac tgcccatctt
                                                                    300
tactggacaa actcatttgg agttcaactt gtgatttctg aaagaactga tgaaattggg
                                                                    360
tactgctttt tttctccatt tttcgttttg ttttaatttt gaatttcatg gtatatactt
                                                                    420
                                                                    443
ttagttcaaa ctcagctgtt tgt
```

<210> 12953

```
<211> 85
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (20)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (21)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (22)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (82)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (83)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (84)
<223> n equals a,t,g, or c
<400> 12953
60
                                                       85
aaaaaaaaa aaaaaaaaa annna
<210> 12954
<211> 148
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (136)
<223> n equals a,t,g, or c
<400> 12954
60
120
                                                      148
aaaaaaaaa aaaaaaaaa aaaaaaaa
<210> 12955
<211> 158
<212> DNA
<213> Homo sapiens
<400> 12955
```

```
120
                                                  158
aaaaaaaaaa aataaactaa aaaaaaaaaa taaaaaaa
<210> 12956
<211> 126
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (9)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (10)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (14)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (20)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (95)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (107)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (108)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (110)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (118)
<223> n equals a,t,g, or c
<400> 12956
60
                                                  120
126
aaaaaa
```

<210> 12957 <211> 8430

```
<212> DNA
<213> Homo sapiens
<400> 12957
                                                                    60
aaacatctca atgttttaag aaagtttatg aatttgtgtt aggccccatt caaagccata
                                                                    120
                                                                    180
tcctgggcca catgcggccc ttgggccggg ttggaagctt gccctaggaa ttttagatgg
agacgctctg tcttgccggg tgtagcaccc gctcctgtgg ctcctttcct ctccacactg
                                                                    240
                                                                    300
qccaaqcagg agctgaatgc tttggaggct ccctgggcat aaggcccagg tgaccactat
                                                                    360
gtgttggtgc tcagcctttg cacatgctgt ccctctctgt ggaacacatt ccctggcccg
                                                                    420
cacatettee teaceeceaa ttaceteeeg ggeteeacae agtgeattte eteaggtget
                                                                    480
gcgctgacca gtgtggtagc tgctggccac gtggctatgg agcccttgaa atatttgagt
                                                                    540
tccaatcaag atgtgtaaga tacactccag atttcaaagc aaaagcaaaa acagctcatt
cacacttttt atactgattt tatattgaaa tgaaaatatt ttggatagac tgggttaaaa
                                                                    600
                                                                    660
aaaaattaag ttcacctgct tctttttact ttttgaaatg tgactgtcag aaaatttaaa
                                                                    720
gtcacatatg tggctcacac tatttctgtg ggacagccct gcctctagct aggggctttg
                                                                    780
gtgagaacca gatgagttga tgggtctcct ctgggccctg cttccctggc tgctgaggtg
caggaactgt gaggggaggg cagcctgtca cggtgcccaa cacagggcag ggctggacag
                                                                    840
                                                                    900
gtacaagtgg aacaggcgga taagctggga agggcacaga gaaaaggagc tcctcgtgac
agcactttcc caccttttat tattcaacac atggaagggg gtggagacac aaggataggg
                                                                    960
                                                                   1020
caatggtgag tttcaataaa taagagaaac aggatggaca ggcagtgggc ccatgcctgc
                                                                   1080
acggccccac ataaataacc aggttgctga gccagagtgg aagtcagggc tgggcctggc
                                                                   1140
agccgcctgc actgcccaga agcactggca ccacagggac acagaaacca ctgaggccca
                                                                   1200
aggtgtgctc cagccccacc aagtcttctc cctaaagctc ctgagatctt ggggctggct
gggcaggcta gggctctgta tcacagtcct gccgggatca agtctatttt ttcagtttca
                                                                   1260
ttaaaaacag ctgggggagg ggcaggcaca tgcattaagc cccttccgta ggcagagcca
                                                                   1320
tggatggaca gccccatggg ggccttgaag gcagaggccc tggaagcagc aaaaacgggg
                                                                   1380
ctggataaag ctactaatgg gagggatggt agagcccagc tccccagtcc cccacaaccc
                                                                   1440
agcccagaac ctacaaagag ctgaagaggc cctgggtact gagacgtctc tccttacttc
                                                                   1500
acagtcagaa aaatggaccc agcgatggcc acagatgtgc ccaagattag aacccaggga
                                                                   1560
ctcactctcc tagcccagga ctttctgcta ccccttccct ttatagacct gctggaagag
                                                                   1620
gagggggacg cacatctgct ctagggccct gtacagaggc aagggtgtgg ctaattacca
                                                                   1680
1740
tgatacagag aatcccgtgg gctcctagga tccagccagg gcaggcacgg gggtcggggc
                                                                   1800
                                                                   1860
atccttcagg ggagcaacat ggcagcaggg ccaggggcgg ggctcagcct gctcctgtac
acagtgcccg ccggccacct gcctcctcac tggggcagac gctcccacct ccaggccttg
                                                                   1920
gtctttgctg tctcgtctgc tgggccattg cttctcggtc ctcacagtcc cagctgcagc
                                                                   1980
tccacctcct ccaggaagcc ttcggaacct cccagggcag ggccgcagtg tccttagact
                                                                   2040
agaacgcccc tcagatgacc aggttgctct cacttagccg gaccacatag cggttctcct
                                                                   2100
                                                                   2160
ggtgggcagg gtgaggggtc agagctgagt caggggctgg cttctggctc caggaaagtg
gccctgcct agggcccgct gcacttccac ccctgccccg tcttcggtca gggttggccc
                                                                   2220
aggtgccaac agatgccttt ctccttgact ctcacctcgg ccttgttctc tgctgggggc
                                                                   2280
                                                                   2340
ttcagccact ttgtacggct tccgccactt cctagcaggg cctgctgctc aggggggagg
ccaggctgtg gggagtcagg gagatcaccc cacgagggcc cagcctccgt gatggtcttc
                                                                   2400
acctcagaca ccattgaact tgtccgctgc tcaggaattc gagccacgcg gaacctgtga
                                                                   2460
                                                                   2520
ggagagtggg gcaatcatcc ccgttagcgg ggatcccggg gcacagagaa ggcagcacgt
                                                                   2580
gcccggggtc acacagcaag ttcatggacc agagccttag cctgagaggc ccgggtgcca
tgggggccaa gatgctgccc tagggatgca agggctccat gtgagacaca acataaccgg
                                                                   2640
aaagtcctga tctctctggc cgcctccact gcccagagag gcccaataag ggcagggctc
                                                                   2700
ccattgagca gggtgctcag ggcccaagct ggggccctgc ctccccctcc cggcccccag
                                                                   2760
                                                                   2820
gctgtcacgt ctttacctgc ccctgctgca tctgtgccca tctcacctgc ccacagacaa
gatggtgatc tcgccctgac gccctgcctt ggccccggcc ttgggaaccc tggtcgggtt
                                                                   2880
aggcagaagg ctgggaacag gagtagtggc ggctacagcc tcaggggaca gcagcacctc
                                                                   2940
                                                                   3000
qqqccacttc ttctggctac agcgggagca gcaggggcca gagagcgagg ccaggccctg
                                                                   3060
cacggtgtgg agatggtggc ggtgcgggca gatgtgtggc acgttcgggg gcgctggcgg
cagcctgcag ggggcacagg cagaagtggc cataggccag gccaggggca ggagacccca
                                                                   3120
gcagggaaca gggtgacttg agggagaccc aagtgggaga tccccaggag gcaggctggt
                                                                   3180
                                                                   3240
taatgtaggt tttggccccg ttatctccca ccagcccact cacttggaca caggcctgtg
gctcgtctgc accagctgtt tgctgtggta ctctttcagc agctcctcca gggccgcagc
                                                                   3300
```

attctctgtg ggtagctgca gtcagaccct cactgtggcc atatgggaca cacctcccac 3360 ccctgcccc agcagagaac ccccaccta ccctccatac caccactccc agcctgggct 3420 3480 gtgcgccttt tcctcccact tcatcaggca agaatgggag gcagaggtgt gcactcctgg 3540 gtcagagagc accaggctgc ttgaggcacc ctggcaggga aggcagagca gggcaagact ctgcccaccg cggctgcctc acaggctcct ggaggaaacc ctcctctct gggcactggg 3600 3660 atggggtcag accttctct cacctttctt ctctgtgatc aagcgcacca ggaccccaat ggtgtcctca ttggcatcct cagtccggta ggcagggttg attcctgggg aagagaaggg 3720 3780 ccctgatcct ggggaagagg gggaagccgc actcctgagc taaaccatga tctgccagca 3840 gagggcaacc ctggccttct taagggccct gagcatgtgc atttaggtga caagcctccc 3900 agagcccctg caaatgtggg atccaggctc agagaagccc atatcacctt catgattcaa 3960 caccagtgct tcctgcaccc aacagcccgg gtgcatagag gcttcagggc cacgtgaact 4020 ccagtcattg aattgggcgg gcgagggggc ggtgcgtcag cgtcttctgg gtctgcactg tctcctcctc agcctcaagg agctgtgggc tgccacccta cccagaactc cccaaatcta 4080 cagcaaactg ctattccatg gcctctctac tgtgccctat gtaacaattt aactgagtgc 4140 ccctagtcag ctttgggccc aaatctcaag ggtgtgagaa tgggccacga tgatcagccc 4200 tgggcccagc agcaaacaga gctcccagga cttgcaccca ggcagcatcc agcagttaaa 4260 gggaagtete taggaaaaca agcacagtee caggeaaaat ggeeetgagt caccaegttt 4320 cctcctgccg gcttactgct cctgtccgct tcctgccccc gccagacttc agtgtcagga 4380 4440 cttagaaggg tctctggctc ccatgccagc cccagacagc cgagggtgct agcatgggag atgccatttc actcttgagg tagccacagg ctcccatggg cccagggcag ggtgtgtgcg 4500 agtgggcccc tgccctgcag gggagtagtg gtgtggggaa gaaggaaagg ggcccggggc 4560 cctgggggtg aaggtggtgg cgcatgcctg tccctccggt tccaggcctt gtaactcaaa 4620 ctacagcctg gaaccaaaac ccgagcccct tatggtgcct gcccaggaca ggacagctgc 4680 4740 cctgccagcc ctcctgccac agggcactcc tgctactcca ggccagaggt cagaggtcac 4800 cttgagtaac tccaaggcca ccatccgacc ctggaaccat acacacaact gtggcctcca 4860 aagagtccag atccccacat ctggcaaggc ttcacccagg gtaggatcca ctgaagcact 4920 tgaccagetg tgccacetet getetgeece caeggecaca cettegteec ettacettte 4980 ctcccatgtt gtcagtctgc agctatcacc tcccaagcct ctccctctca gaccccagag 5040 gccaggcagg attccgctgg cagcccccaa gtggagctgg ggctgggctc gtgcccccgt cetteceace tggaceceag etgggeetea ceaetgeete cacetecagg geegggeeeg 5100 acctccttgt gcgccgtgca gtggtagccc ttccgcttga ggaggttgca caccaggatg 5160 5220 cccaacagcc ccatgaggca gaagacaggg acgatggcga tgaccgcgta ctgggcggct gtctcctctg ggccacctgc ccgggtgccg ttcccaggct gccgtgtctc accaccgctg 5280 5340 ctggccctg ctgccacctc cacgccacgt cgggcccgcc gccccactc tgagcatcac 5400 agacgatgga ggcaggacaa aagcagagtg acacaaacac agagagacag gggcccaggg cccgagtcag tgggggctgc aggagagcca atgtgcccag gggagcccac tccccgccat 5460 gctggggatg caaaggtcaa cccactgccc tcctgttttc ccttctggcc atcgaagcat 5520 tgtcctgaac aaggcctcct caggacggcc agacacccag ccccaccctc ccctcacgct 5580 5640 ggggtcaggg ggtgaagaga tggcacacag gacacatgtc tgggcacagg gacgtgggat 5700 ctgcctccct gtggcctggc catgaatcta gtgcctcagg gggtgactga ctcagtggcg 5760 ggaggaggtg cgtgtgggta tgtgagtgtt tgcatgcgca cactcatctg catgggtttt 5820 tttaggcagg gtctcacttg ttgcccaggc tggagtgcag tggggcgatc acagctcact gcagcatgaa aatcatggac tcaagcaatc ctcccgcctc agcctcccga gtagcaccac 5880 cacgcccggc taatttttta tttttatttt ttgcagacag ggtcttgcta tgttgcccaa 5940 gctggtctca aagtgatcct cctgccttgg cctcccaaag tgctgagatt acaggcatga 6000 gccactgcac ttggctggca tgaatctctt tgaagggatg gggacagggg acaggtcagt 6060 6120 atgtgagtcc ccagccccca gctgtggctg ccatctgcag gacactctct gccactcgga 6180 agcatggtgg gcagaaacag ccaggggagc ggctgactgt gccctgctgg agaccctttg gctgcacgcc ctgccctggg ctggaagaag gaccccactg cccccacatg aacactgcag 6240 aggctgctgg gctccaactc actggcccct cccgcacata cccctgcacc agtcctagcc 6300 ccagtctgcc actcaccatc acagccatga gtacccagag gtgcccagga acatggttga 6360 6420 catggaacgc ggggaacccc ccaaggccca aaccacctgc gaggagggaa gataccactg 6480 aggcccagaa gtttccccaa acactatcct taggagaggc tggattcctt cctaccaggc accetecgtg gteetgeece ateceattte acagatggga agaatgagge etgeteaggg 6540 6600 tacaataagg ctggggcccc aggatccaga gtcctggtca cccagccagg agccctcccc gcactccctt tggcttaccc aggccagcag tctccacaga gtgtatctcg agttgccatg 6660 cccacctggg cctccagcct cctccaaagg ctgcaacggg catggggctg gcatgggctg 6720 6780 gggtcctgtg ggaggtaaag ggtgagagca tggccaggag ccaagcctga ggacccttgg 6840 6900 gggccaggca caggactctg cccctggccc tcagggccct cccaggacag gcaggagagc agggcaatgc tcaccaggtc gggctcctcc ccaggtgggc actgccaaag ggttgttgat 6960

```
gtcagggtgg cgagaggcca gggcagcagc tagaagaaca gtaggcattg aaagaggcag
                                                                     7020
                                                                     7080
aaagtgctgg gtgtggggtc tctggggtca tctatccccc acctatttcc tgaaacccca
gtggtaggga ccactgacta ccccacccgg gcttcaggga cacactcttc taacctcaat
                                                                     7140
ccctcacact gaggaaaacc tgtcctgtcc cagacctgct gcaagaccag tacctgggca
                                                                     7200
aggagagagc cacatctggc tctggaaagt gctggaaagc cccagataag gccacatcag
                                                                     7260
                                                                     7320
gatctcaagc ccttccagct aaccagaacg atgaggagga aatgcttccg aatcctctct
                                                                     7380
cgtattctgc ccccacttcc tcctactttg ggtccatccc tggccccatc acagctgggc
                                                                     7440
atatcattaa ccagcctcat ttataatccc tggagccaag tctgcaggtg gcgcttccta
                                                                     7500
ttctgggctc tcccttcagc gaaagtctcc aggaccacat cctcctctgc aatcttccct
                                                                     7560
caaggcgagg ctaccccatt cacacccaca cacccaaaca gggagacgca tcccaaaaga
aagctccatc ttctcagtgt gtgtccccag cccatttcac taggagttct ctctgcttcc
                                                                     7620
                                                                     7680
cattcttagg aatgaactgt ctctcctgaa tccctcctag agtcccccaa tttggcctag
                                                                     7740
gctggatgag gctaccatca gctgccctgg agatggaata gggatctcct cagaccccag
                                                                     7800
ageggetece ageacetget aaggetggaa ggeeteetgt acatggagea accettagea
aggcccaagg ccaagtctca ccctccctga gcttctagcg tcacagcaga aagatgggcc
                                                                     7860
                                                                     7920
ccagggcaga ccccaagatg ctgcaagtct gtaatgtgga cttgcctgca gctccgggca
                                                                     7980
gctggcctga tcctgtgatc ctgggacctg gaatctggga tcccccagac caatacagat
cttgaacccc agcacctgag gtgctatggc tctcagggtc caaatcccag gcctcttttg
                                                                     8040
                                                                     8100
cccagtttcc tcttggtgcc cagcataccc tctgggctgg gctccgttct catgcctgcg
                                                                     8160
tgccaatggg catcttgccc tcagccatgc ctgccttgcc cataaatgcc agcaagccct
                                                                     8220
tcattctcca tctccctgac aagcctgggt gggcccagag gtgcttccta gggtccagct
gcctcagatt cttgacgagc tgagtaactg agccctgccc agcagggggt tccccgggag
                                                                     8280
tgtctgcacc ctcttgctgg agggctgcag ggctgagggt gcggcttttc tccttcccag
                                                                     8340
ggcccatccc cagctcacca taaggaagca ggacaggggc cggcacagca gacttggctt
                                                                     8400
                                                                     8430
catcctcagg cccctggtgg tcgccggcct
<210> 12958
<211> 688
<212> DNA
<213> Homo sapiens
<400> 12958
                                                                       60
agcagctggc aaatagggac tccaaacaca ctctggcagc cgcaggaaat acttatttgg
gtacactggt gatgcctgct agtcccctac aatggacacc ctgtcctaca ctttggcatc
                                                                      120
cttttctgct ccagaacatc cctcctgatg tccagcctct gtttccttcc cctcttctgg
                                                                      180
tgcaggtgaa acateteetg gatetteaga ggtgteeete eeetteetge eeacetgaaa
                                                                      240
agccctggag agagacacct gtgccctagg tacccaagga gagtcaaatc ccaaagcaca
                                                                      300
tctgcccagg gtaggaggag gcccccagct tggcttctgc tcaggagaaa ggcccctgcc
                                                                      360
ccctgtgaag ccaggcctcc cgacagcccc agcatggccg ccccatagct gccctgtgcc
                                                                      420
tgctgcagac aggccgggga ctcccacagg ctggtcctct ccacacctcc ccaggttcca
                                                                      480
tcaggtgtca ctcttgttct tcagcctctc tctgaggccg ttagtttaaa tgtgtccctc
                                                                      540
tctcccgtct ttagacaaca taacaaacaa taaaacccta aattaactga aaattgtctc
                                                                      600
tccccagage ctgaggecee acceagetat ggeetgeeag getteggeag ggagetgtet
                                                                      660
                                                                      688
ccctcaatcc acctggccct ggccctgg
<210> 12959
<211> 576
<212> DNA
<213> Homo sapiens
<400> 12959
tttcctttac ccttcaaagc tcaacacgaa ggcctctctt tccagaagct tctctagaag
                                                                       60
                                                                      120
ctttccccaa agtgggtctg gctcccacag ctccccaccc catctaggtc ctggtccttc
                                                                      180
tgcatggcca ctgtccacac ctcttccagg gaggctgact cctcccttga ggctggaaca
tgtctggcca cagctcttcc cctggcagac ctatggggct ggggtggtca cggcagccag
                                                                      240
                                                                      300
tgctctgtct ttgtcatctc tccagcacct actgcgtgcg ggcactggag aaatcggtat
                                                                      360
gaacaagaca gacaaggtcc ctgtctgcag ggagctccat cccaggggag acccaactgc
aaacagagag gtgcccctgc catttggtgg taagtgccaa gaaacgaaat aaagcagagt
                                                                      420
gggagtgcag tgtgtgatac ttcagagaaa tatccatggt ggcgtcacgg cccaccggtc
                                                                      480
```

540 tqaqactgag gcccccaggc ccagacggtg gcctgctctg gagaagcctc cggccagtgg 576 acgaggcgga cacagcagga caaaggattc acatca <210> 12960 <211> 3471 <212> DNA <213> Homo sapiens <400> 12960 60 ccggcgcccc agcccgtctc ccggccccgg_gcgcgggga accccgggtc ctgcagcctc ccgagtgcgg agaggcgggg ccgcccgctg ccgcccggct gcctgcgccc cctcccgcgg 120 180 ccccggctct gggagcgggg cgccccgcgc gcgggcacac ggcggccaga gcgccgaggc 240 ggtaccttca gcctgcaatg agaggaaccc gggagagccc ccgggagcca gcgaagagct 300 tggctgctgc gtccagggct gctgctgccg ccgcggctgc ttgaaactcc tcaaagttga 360 gagccggcta gagggtgccg cccgccggga gccggaggga aaggaagtcg gaaggtgcaa 420 gagtgacaga cacggacaga cggacgcgca gaccttcgga aggcactgcg taggcagcct 480 ccccggagcc cacgaggctc cccagcaccg tgagtttttt cctggatggg tggttgctaa 540 gtatttccgt ttaattgttt gtagcgtacg tttgcgtata gttgtgtctg ttggagggag 600 tttaaaacaa caacaacaac aacaacaacg caggatgcac cttaggaaaa aattgagttt 660 ctgatggtgg gtgagacggt gggttgtatg gagagaatgt gactgtacat ttttataagc aggactaacc caggaaagag gaaaaaatac atttaacagt gaagaggcaa cacagagctc 720 780 cctattgtga aataaaaccc atttcaaaag ttattggaaa gaaagtaagg tatggctctt 840 atgggttaac tagtggtagt cagtttctgc tttttactcc ctctgaatta ttaattgttt 900 gccaggttca ctggtgggag gctgagccgg tggaaaagac accgggaaga gactcagagg 960 cgaccataat gtcgttacgt gtacacactc tgcccaccct gcttggagcc gtcgtcagac cgggctgcag ggagctgctg tgtttgctga tgatcacagt gactgtgggc cctggtgcct 1020 ctggggtgtg ccccaccgct tgcatctgtg ccactgacat cgtcagctgc accaacaaaa 1080 acctgtccaa ggtgcctggg aaccttttca gactgattaa gagactggac ctgagttata 1140 acagaattgg gcttctggat tctgagtgga ttccagtatc gtttgcaaag ctgaacaccc 1200 taattcttcg tcataacaac atcaccagca tttccacggg cagtttttcc acaactccaa 1260 atttgaagtg tettgaetta tegteeaata agetgaagae ggtgaaaaat getgtattee 1320 1380 aagagttgaa ggttctggaa gtgcttctgc tttacaacaa tcacatatcc tatctcgatc cttcagcgtt tggagggctc tcccagttgc agaaactcta cttaagtgga aattttctca 1440 cacagtttcc gatggatttg tatgttggaa ggttcaagct ggcagaactg atgtttttag 1500 atgtttctta taaccgaatt ccttccatgc caatgcacca cataaattta gtgccaggaa 1560 aacagctgag aggcatctac cttcatggaa acccatttgt ctgtgactgt tccctgtact 1620 1680 ccttgctggt cttttggtat cgtaggcact ttagctcagt gatggatttt aagaacgatt 1740 acacctgtcg cctgtggtct gactccaggc actcgcgtca ggtacttctg ctccaggata gctttatgaa ttgctctgac agcatcatca atggttcctt tcgtgcgctt ggctttattc 1800 1860 atgaggctca ggtcggggaa agactgatgg tccactgtga cagcaagaca ggtaatgcaa atacggattt catctgggtg ggtccagata acagactgct agagccggat aaagagatgg 1920 1980 aaaactttta cgtgtttcac aatggaagtc tggttataga aagccctcgt tttgaggatg ctggagtgta ttcttgtatc gcaatgaata agcaacgcct gttaaatgaa actgtggacg 2040 tcacaataaa tgtgagcaat ttcactgtaa gcagatccca tgctcatgag gcatttaaca 2100 cagcttttac cactcttgct gcttgcgtgg ccagtatcgt tttggtactt ttgtacctct 2160 atctgactcc atgcccctgc aagtgtaaaa ccaagagaca gaaaaatatg ctacaccaaa 2220 gcaatgccca ttcatcgatt ctcagtcctg gccccgctag tgatgcctcc gctgatgaac 2280 ggaaggcagg tgcaggtaaa agagtggtgt ttttggaacc cctgaaggat actgcagcag 2340 2400 ggcagaacgg gaaagtcagg ctctttccca gcgaggcagt gatagctgag ggcatcctaa agtccacgag ggggaaatct gactcagatt cagtcaattc agtgttttct gacacacctt 2460 ttgtggcgtc cacttaattt gtgcctatat ttgtatgatg tcataattta atctgttcat 2520 2580 ctttgaaata caaccaaatt ctcttaaaat gattggtagg aaatgaggta aagtacttca 2640 2700 gttcctcaat gtgccataga aagatggggt tgttttccaa agtttaagtt ctagatcaca atatcttagc ttttagcact attggtaatt tcagagtagg cccaaaggtg atatgactcc 2760 cattgtccct ttatttagga tattgaaaga aaaaataaac tttatgtatt agtgtccttt 2820 2880 aaaaatagac tttgctaact tactagtacc agagttattt taaagaaaaa cactagtgtc 2940 caatttcatt tttaaaaagat gtagaaagaa gaatcaagca tcaattaatt ataaagccta 3000 aagcaaagtt agatttgggg gttattcagc caaaattacc gttttagacc agaatgaata

3060

gactacactg ataaaatgta ctggataatg ccacatccta tatggtgtta tagaaatagt

```
3120
qcaaggaaag tacatttgtt tgcctgtctt ttcattttgt acattcttcc cattctgtat
tcttgtacaa aagatctcat tgaaaattta aagtcatcat aatttgttgc cataaatatg
                                                                     3180
taagtgtcaa taccaaaatg tctgagtaac ttcttaaatc cctgttctag caaactaata
                                                                     3240
                                                                     3300
ttggttcatg tgcttgtgta tatgtaaatc ttaaattatg tgaactatta aatagaccct
actgtactgt gctttggaca tttgaattaa tgtaaatata tgtaatctgt gacttgatat
                                                                     3360
tttgttttat ttggctattt aaaaacataa atctaaaatg tcttatgtta tcagattatg
                                                                     3420
                                                                     3471
ctattttgta taaagcacca ctgatagcaa atctctctcc aaaattctta a
<210> 12961
<211> 1975
<212> DNA
<213> Homo sapiens
<400> 12961
                                                                       60
aaccgaatcc ttccatccaa tgcaccacat aatttagtcc cagaaaacag ctgagagcat
                                                                      120
ctaccetcat gaaacceett tgtetgtgac tggteeetgt acteettget ggtettttgg
                                                                      180
tatcgtaggc actttagctc agtgatggat tttaagaacg attacacctg tcgcctgtgg
                                                                      240
tctgactcca ggcactcgcg tcaggtactt ctgctccagg atagctttat gaattgctct
                                                                      300
gacagcatca tcaatggttc ctttcgtgcg cttggcttta ttcatgaggc tcaggtcggg
                                                                      360
gaaagactga tggtccactg tgacagcaag acaggtaatg caaatacgga tttcatctgg
                                                                      420
gtgggtccag ataacagact gctagagccg gataaagaga tggaaaactt ttacgtgttt
cacaatggaa gtctggttat agaaagccct cgttttgagg atgctggagt gtattcttgt
                                                                      480
                                                                      540
atcgcaatga ataagcaacg cctgttaaat gaaactgtgg acgtcacaat aaatgtgagc
aatttcactg taagcagatc ccatgctcat gaggcattta acacagcttt taccactctt
                                                                      600
gctgcttgcg tggccagtat cgttttggta cttttgtacc tctatctgac tccatgcccc
                                                                      660
                                                                      720
tgcaagtgta aaaccaagag acagaaaaat atgctacacc aaagcaatgc ccattcatcg
attctcagtc ctggccccgc tagtgatgcc tccgctgatg aacggaaggc aggtgcaggt
                                                                      780
                                                                      840
aaaagagtgg tgtttttgga acccctgaag gatactgcag cagggcagaa cgggaaagtc
                                                                      900
aggetette ceagegagge agtgataget gagggeatee taaagteeac gagggggaaa
                                                                      960
tctgactcag attcagtcaa ttcagtgttt tctgacacac cttttgtggc gtccacttaa
                                                                     1020
tttgtgccta tatttgtatg atgtcataat ttaatctgtt catatttaac tttgtgtgtg
                                                                     1080
gtctgcaaaa taaacagcag gacagaaatt gtgttgtttt gttctttgaa atacaaccaa
attctcttaa aatgattggt aggaaatgag gtaaagtact tcagttcctc aatgtgccag
                                                                     1140
agaaagatgg ggttgttttc caaagtttaa gttctagatc acaatatctt agcttttagc
                                                                     1200
actattggta atttcagagt aggcccaaag gtgatatgac tcccattgtc cctttattta
                                                                     1260
ggatattgaa agaaaaaata aactttatgt attagtgtcc tttaaaaaata gactttgcta
                                                                     1320
acttactagt accagagtta ttttaaagaa aaacactagt gtccaatttc atttttaaaa
                                                                     1380
gatgtagaaa gaagaatcaa gcatcaatta attataaagc ctaaagcaaa gttagatttg
                                                                     1440
ggggttattc agccaaaatt accgttttag accagaatga atagactaca ctgataaaat
                                                                     1500
gtactggata atgccacatc ctatatggtg ttatagaaat agtgcaagga aagtacattt
                                                                     1560
gtttgcctgt cttttcattt tgtacattct tcccattctg tattcttgta caaaagatct
                                                                     1620
                                                                     1680
cattgaaaat ttaaagtcat cataatttgt tgccataaat atgtaagtgt caataccaaa
atgtctgagt aacttcttaa atccctgttc tagcaaacta atattggttc atgtgcttgt
                                                                     1740
gtatatgtaa atcttaaatt atgtgaacta ttaaatagac cctactgtac tgtgctttgg
                                                                     1800
acatttgaat taatgtaaat atatgtaatc tgtgacttga tattttgttt tatttggcta
                                                                     1860
tttaaaaaca taaatctaaa atgtcttatg ttatcagatt atgctatttt gtataaagca
                                                                     1920
ccactgatag caaatctctc tccaaaattc ttatagtaaa gttgattttt ttaaa
                                                                     1975
<210> 12962
<211> 506
<212> DNA
<213> Homo sapiens
<400> 12962
ttttagggaa cagtatgtag atccgctgct cggtagcatt gaaaagtccc tattggatgg
                                                                       60
tgttaaaaat tactgtccct gccccttaaa caccaacctc accctttgga caatatcctt
                                                                      120
cagagccaaa gatgttacaa gcaagcattt tattctgctt actgccatta aaataattag
                                                                      180
gaagaattct gtgacttgta tgaccttgga aatcatcacc tcttcttgct ttatagaaac
                                                                      240
```

gcagactcaa gagatgctgt gatttgttta ggatcataca gctagtctgg acacaaggga

```
360
aacctcttga tccatgaaag ctctccagca atgtgatatt ccgggaatgt ttaatagagc
                                                                    420
480
agggaccgct aaggttette catteeteaa ateettgate etatgaaagt aagtgttgea
                                                                    506
tttgccaggg aaatatggac agtgct
<210> 12963
<211> 266
<212> DNA
<213> Homo sapiens
<400> 12963
gtctccaagg gtgagacccc tccctcggtg gctgggcgtg tcccctttag ccttcctgga
                                                                     60
                                                                    120
ccccattacc gcccggcttg gagctggacg aagggacgta attggtaggc gagtgggttg
                                                                    180
ggcatcttga ctcaaggacc agagtctggg cctctggtgt ggacccctgc cccctccccg
                                                                    240
ctctgcgcgg ccgttctaga ggtccgggtg ggagctggag gaggaaagcg ggaggaggcg
                                                                    266
gcgaggccgc ggggcggtat gagggg
<210> 12964
<211> 1207
<212> DNA
<213> Homo sapiens
<400> 12964
                                                                     60
caggactgca ttttgctccg gagcgtccag agtcctggcc ctgagcggga atcgcagtgg
ccgaggctga gcggcaggta gaaggggcgt ctccggggct tcacagggaa cacaggggct
                                                                     120
tcggcccaac cacaagtacg cagttgcaca tgccctactt ttgcccattc tttgcaaatc
                                                                     180
                                                                     240
ccctaaggaa cgaacgcgcc tcgcgtgcgg gcctttctaa tcttcgcttg tcccttcact
                                                                     300
tocacagoty gaggtogaat toaccacgto acgtagagaa aaggggoggt gtotogggto
tccccgtgtg gcatcaaggc gggctcccta taggagctgg tgtggacgtc cgggcgtggg
                                                                     360
                                                                     420
gttagggcgg atgcggggat cgcggggcgg gtgttgacat tgtgctctca ccaggcggat
cgccccgacc ctcactcctg gcgtctgagt ctctggcgta gcccatgctg agtgggcggc
                                                                     480
                                                                     540
tggtcctggg tctggtctcc atggctggcc gcgtttgttt gtgccagggc agcgcgggat
ccggggccat cggtccggtg gaggccgcca ttcgcacgaa gttggaggag gccctgagcc
                                                                     600
ccgaggtgct agagcttcgc aacgagagcg gtggccacgc ggtcccgcct ggcagtgaga
                                                                     660
                                                                     720
ctcacttccg cgtggctgtg gtgagctctc gtttcgaggg actgagcccc ctacaacgac
accggctggt ccacgcagcg ctggccgagg agctgggagg tccggtccat gcgctggcca
                                                                     780
                                                                     840
tccaggcacg gacccccgcc cagtggagag agaactctca gctggacact agccccccat
gcctgggtgg gaacaagaaa actctaggaa ccccctgaac cccaagagag ggaggaccag
                                                                     900
gatccgaatg ggctgggtga gcacgaatta ccgaggcctt ccctttgata cagtccagga
                                                                     960
tttgtaaggg atgaagaccc ctgggcccca ttctgttggg gtccatacat actctccgaa
                                                                    1020
gatagcaact tgcttcaggt caaagtgaac ccgagaaaag agaagaatca ctcactactg
                                                                    1080
ctcttgccct ggactattca ggaagggcag cccggatgtt ccatgttaaa tcgtgacaga
                                                                    1140
attgcaccag acctgatgag ttggaaacaa tcctatacat taaaagaaat tacactatga
                                                                    1200
                                                                    1207
ggctgtg
<210> 12965
<211> 1207
<212> DNA
<213> Homo sapiens
<400> 12965
caggactgca ttttgctccg gagcgtccag agtcctggcc ctgagcggga atcgcagtgg
                                                                      60
ccgaggctga gcggcaggta gaaggggcgt ctccggggct tcacagggaa cacaggggct
                                                                     120
tcggcccaac cacaagtacg cagttgcaca tgccctactt ttgcccattc tttgcaaatc
                                                                     180
ccctaaggaa cgaacgcgcc tcgcgtgcgg gcctttctaa tcttcgcttg tcccttcact
                                                                     240
                                                                     300
tccacagctg gaggtcgaat tcaccacgtc acgtagagaa aaggggcggt gtctcgggtc
tccccgtgtg gcatcaaggc gggctcccta taggagctgg tgtggacgtc cgggcgtggg
                                                                     360
gttagggcgg atgcggggat cgcggggcgg gtgttgacat tgtgctctca ccaggcggat
                                                                     420
```

```
480
cqcccqacc ctcactcctg gcgtctgagt ctctggcgta gcccatgctg agtgggcggc
                                                                      540
tggtcctggg tctggtctcc atggctggcc gcgtttgttt gtgccagggc agcgcgggat
                                                                      600
ccggggccat cggtccggtg gaggccgcca ttcgcacgaa gttggaggag gccctgagcc
ccgaggtgct agagcttcgc aacgagagcg gtggccacgc ggtcccgcct ggcagtgaga
                                                                      660
                                                                      720
ctcacttccg cgtggctgtg gtgagctctc gtttcgaggg actgagcccc ctacaacgac
                                                                      780
accggctggt ccacgcagcg ctggccgagg agctgggagg tccggtccat gcgctggcca
tccaggcacg gacccccgcc cagtggagag agaactctca gctggacact agccccccat
                                                                      840
                                                                      900
gcctgggtgg gaacaagaaa actctaggaa ccccctgaac cccaagagag ggaggaccag
gatccgaatg ggctgggtga gcacgaatta ccgaggcctt ccctttgata cagtccagga
                                                                      960
tttgtaaggg atgaagaccc ctgggcccca ttctgttggg gtccatacat actctccgaa
                                                                     1020
                                                                     1080
gatagcaact tgcttcaggt caaagtgaac ccgagaaaag agaagaatca ctcactactg
                                                                     1140
ctcttgccct ggactattca ggaagggcag cccggatgtt ccatgttaaa tcgtgacaga
                                                                     1200
attgcaccag acctgatgag ttggaaacaa tcctatacat taaaagaaat tacactatga
                                                                     1207
ggctgtg
<210> 12966
<211> 3901
<212> DNA
<213> Homo sapiens
<400> 12966
                                                                       60
attttgatag atagttttat tataaaaaat tggctttttg attatggaag ctaataaatc
                                                                      120
ccaagatccc caagatcttc acggtaagtt ggcaagctgg agacccagga gaactgatga
tatagttcca gtccaagttc aaaggcctga gaaccaatgg tgtagttcca gtccaaaggc
                                                                      180
                                                                      240
cgagtctaag acccagatgg agccagtgtt tacttctgag tctgaaggct gagaaaagcc
                                                                      300
aatgtccggg tctcaaagca gtcaggcaga aggaagtctc tcttactccg gagtgggtca
gtcttttgtt ctagtcaagc tttcaactgg ttggatggga cccacctata ttagggaggg
                                                                      360
                                                                      420
caatttactc agtctccaat tcaaatgtta atctcattca aaatactctc acagaagcac
                                                                      480
ccatatttgg ccaaatatct gagcaccaat cctctagaag ttgggacatt aaccatcaca
                                                                      540
ggccgtgcgt ggtggctcac gcctctaatc ccagcacttt gggaggctga ggtgggtgga
                                                                      600
tcacctgagg tcaggagttt gagaccagcc tggccaacat ggtgaaaccc ccctctccac
taaaaataca aaaattagcc aggcgccatt gtccacgcct gtaatcccag ctactcagga
                                                                      660
ggcggaggca caagaatcac ttgaacccag gagacagagg ttgcagtaag ccaagattgc
                                                                      720
                                                                      780
atcactgcac tccagcctgg gcgacagagt gagactccat ctcaaaaaaaa aaaaaaagt
                                                                      840
taaccatcac aggtagagtt taataggctt tatctctgaa acttagtctc aaacagtcca
gaaaataatt atatatttgt agataggtac atacaaataa aacaaacagt gaattgttaa
                                                                      900
                                                                      960
tatttgggta atctaggtat caggataaag gatatacagg aattatttga actgttttt
ttaactttag atgcacaaac cttgtaatta tccttgacac tttccctccc acaaccaagc
                                                                     1020
cattaccaca ccctgtaggt tttactttcc taatatacat cctgtagcca caatttctct
                                                                     1080
                                                                     1140
ccatttccac caccaccacc accaccttgg tccaaatcat catcatctct cacctagact
                                                                     1200
gctacagtaa cctcccaact tgtctccctg tttccactct tgcctcctct acaatccatt
ctccaccctg aagccagtga tctttgcaga atacaaactt aaagtcagct aaatgcaatg
                                                                     1260
catgatcctt gattggtttc tgaaaattaa acatttataa tgtttactta gactgtgctg
                                                                     1320
ctattacaaa ataccactga ctgggtaatt tataaacaga aatgtatttt ctcacagttc
                                                                     1380
tggaggctgg gaagtccaag attacggcac tggcaggttt ggtatctagt gaaggccagt
                                                                      1440
tcctcataga tacgccatcg aggtgacctt acatggcaga agggacagaa ggggccaact
                                                                      1500
tacccctca agctctttca aaaggcgtta gtccattctt gagggtggag ccctcatagc
                                                                      1560
cttattacct cctaaaggcc ccaccactta ataccaacac catggattaa ttttcaacat
                                                                      1620
gaattctgga ggagacatat tcaaactata gtagacacca atgagacagt tggggaaatc
                                                                      1680
tgaatatcaa ctgtatgtga ttatagtatt gtatgaatgt taaatgtctt ggatgtggta
                                                                      1740
atggtattgt ggatatgtat gaaaatgtcc ttgttcttag gagatacaca ttgaaagtac
                                                                      1800
atagcaatta agtgtaaaga attttgtggg gccaggcgca gtggctcacg cctataatcc
                                                                      1860
cagcattttg ggaggccgag gcggactgat gacctgagtc aagaccagcc tgaccaacat
                                                                      1920
                                                                      1980
ggagaaaccc cgtctccact aaaaacacaa aattagccag agtggtggcg cacgcctgta
atcccagcta catgggaggc tgaggcaagc aaatcgcttg aacccaggag gcggaggttg
                                                                      2040
ctgtgagcca agatcgcacc attgcactcc agcctaggca acaagagcga aactccatct
                                                                      2100
caaaaaaaaa aaaaagaatt ttgtggctgg gtgcagtggc tcacgcctgt aatcccatca
                                                                      2160
ctttgggagg ctgaggcagg cagatcactt gaggtcagga gttccagagc aggaggatca
                                                                      2220
cttgaggtca ggagttccag accagcctgg ccaacatggt gaaaccccat ctctactaga
                                                                      2280
```

aatgcaaaaa aatttagcca ggtatggtgg caccagcctg tagtcccagc tactcaggag

2340

```
2400
qctqaggcag gagaatcact tgaacccaga aggtggaggt tgcagtgggc caagatggcg
2460
                                                                   2520
attttgggcc aggcgcagtg gctcacgcct gtaatccctg taatcctggg tggccgagga
gggtggatca cctgaggttg ggagttccag accagcctga tcaacatgga gaaaccccgt
                                                                   2580
                                                                   2640
ctctactaaa aatacaaaat tagccgggca tgttggcaca tgcctgtaat cccagctaat
                                                                   2700
caggaggctg aggcaggaga cttgcttgaa cccaggaggc agaggttgca gtgagccaag
                                                                   2760
atcacgccat tgcactccag cctgggcaag aagagcaaaa ctccatctca aaaaaaaata
aataaataag atttctgcac ctaactcaag tgattcagca gaaataatta ttattatttc
                                                                   2820
attattatta tacacacata cattaaaaga gatacaaagc caagtctggc aaaatcttat
                                                                   2880
cagtgaacct aggtgaagag tggataaatg ggttgctcat tgtattaatc ttgcaaattt
                                                                   2940
tctggaagtt ttaatttttt ttaaaggcta gggaaaacag tgtatgtcat agtttaaatt
                                                                   3000
tcttgagtgt gataaggtta ttgtggttat gtatgagaat atctttgttc ttaggagata
                                                                   3060
                                                                   3120
catattggag tagttagggg tgaaatgtca tgctatctgc aacttacttt caaatggttc
atccaaaaaa gcatataaat atattttaaa gtatatgtaa agtacttaaa tatatgagta
                                                                   3240
tatatgtaca agtataaaat aaatataaat gcaaaaaatg gtgggtcaag tgaaaggtag
agggtgttgc tttgaactat tcaacttttc tgtggctttg acatttttca aaatgagaag
                                                                   3300
                                                                   3360
ttggggaaaa acatttagaa atatgtaaat atattaagga tacaaaataa aatttaaata
                                                                   3420
attttacaag ttaagaatca tcctggaaaa attacatcct gttacatccc tgcttaaaac
                                                                   3480
ctcagtagct tcccactact tctaggataa agacaaaatt gcctaacaag ggctacaagg
cctggggtgg tctggcccgt tcctctcctc ctggtaccct actcatcacc atcagctgcc
                                                                   3540
                                                                   3600
ccctaggctc caaccacaca taaccacacc ctaactacac cagaaggaaa gactccctca
aaattctctc tcctcctgtc ctttacacat gcagctacca aagccaaaac ctcactatga
                                                                   3660
gggactgaga aatggattct catgttgttt ctgctgaact gtttccctaa atctcggaaa
                                                                   3720
                                                                   3780
tattetetge cegeetecca ttecacetet ceaaceegg ceaagtetgg gtaacttgee
                                                                   3840
tccttagcat cctgtgttta tctcatcgta gcacctagta cccagtattg caattgtccg
                                                                   3900
ctcacttgtt agtcttcagt gctctgttgt ctccttgaaa acagggcctg acttgactcc
                                                                   3901
<210> 12967
<211> 15857
<212> DNA
<213> Homo sapiens
<400> 12967
ttttttttt tttttttt ttttttgtga gacggagttt tgctcttgtt gaccagactg
                                                                     60
                                                                     120
gagtgcaatg gcccaatctc agctcactac aaccttcgcc tcccaggttc aagcgattct
                                                                     180
cctgtctcag cctcccgagt agctgggatt acaggtgcct gccaccatgc ccggctaatt
tttgtatttt tagtggagac gaggtttcat catattggtc aggctggtct caaactcctg
                                                                     240
                                                                     300
acctcaagca atctgcctgc atcgacctcc caaattgctg ggattacatg cgtgagccac
cacgcccggc ccggttaaca tatatcttga ccatttctag ctaaagaatt taaggtgcat
                                                                     360
gtggttgggc agtagggagt cattgacaaa ttttgagtac agacatgcca gagagcatct
                                                                     420
gggggcagat ggatctggca gtgatgtgta agtgagttgg catgggagac tggaggaaca
                                                                     480
gagatcaatc cagagtgagg gtagaaccct gacttacaag tcatctgtgg gaatggaaag
                                                                     540
                                                                     600
gaaggagttt atttgagagc taccataaaa tcagaaaatg gtttgattgg aacagaaatg
gactagagtg agaggggagt caatggtaac cccaaggcag tggttttcag attttctcag
                                                                     660
gtaagaactc ccatgagatt gtttaaaatg aaacttctgg ctgggtgtgg tggctcacac
                                                                     720
ctgtaatccc agcagtttgg gaggccgtgg cgggcggatc gcctgaggtc aggagttcga
                                                                     780
gaccagcttg ggcagcatgg tgaaacccca tctctactaa aaatacaaaa attagttggg
                                                                     840
                                                                     900
tgtggtggca ggcacctgta atcccagcct cttaggaagc tgaggcagga gaatcgcttg
```

1020

1080

1140

1200 1260

1320 1380

1440

1500

1560

aacccgggag gcggaggttg cagtgagcca agatcacgcc actgcactcc agcctgggca

acaaagcgag actctgtctc aaaaaaaaaa aaaaacgtag attcaaggtc cctatccttc

caaaccaaga aaaaaaaaa gggttctgat tcaacaagtc aagagtggag tctggggtct

atatttttaa aaagcatacc agaagattta gaggaaagtt ggttctattc ttatgaaaca

ttactcccaa agttttcaaa tctgggagac ttagagggcc ctccatctgt aggggaaaga

tcaaggtaga gaggccaatt taggaagtaa atctggtaca ccatgttatt ctgaccttca gtccatctca ccattttacc ctccaaggct gttaggagaa ttggatgtag gtggagagtc

acagaagcag gtatagccat tttgtatttt gaggatttgt ttccgtttta tttttcgtca

atatttttca ctgcattttt cacatcaaca gagttgggtt tagggttccc caggagagca agggagatgg atgggtccct cccaggggtg cgaggaagag ggctacgtcc agcatgtggg

gagtgaggga caagggcaca gggcacacac tcatacactg ggcactggag aaggcagtct

1620 tttgagcaca gacaccaaag agttaaacag tcaccacctg gtacagtgtt acaaaatggg gagagtgacc acagggttgg ggcactggac gcagcatgac gaaggtgaat tttgattttc 1680 ttttttgtta ttttcacttt tttcctttta acatttttt aaacatttta caaacatcta 1740 1800 aaaactacaa cacgtcacag ctacagtggg gtgaggggag ggcaccaaag aaagcagcca cacagagtag ggtgggatgg ggcagcctaa cctacagagg ctattgtgtg gaagggtaaa 1860 1920 atggggaaac tgaggcttct agtccctgca ttaggggtcc ctcactcact gcccaacctc tececaetea gaggagetge caggagggee cetgetteet geetetgeee cagetetttg 1980 tgctttttga tctgctggtt tgaccagatg cctggtttct ttccctcccc tgctcccctc 2040 cctgtgaggg gacaggtagg gagcatggga gggcagctgt gctattcccg cctgtgctgt 2100 agtgggtgga gcctctcact ccagaggagg cctctgcttc ttgaggaggg aaggagatgg 2160 gccttgtcgg atgccctcag atctccctag actgtgggac tcttatccca ggctggccta 2280 gggctcctcc atcccaggct caacacagaa accagattag gggaggaact gtgggaggca 2340 gggttgtgtg tgcatccgct gaaattaccc ttggcttata tttgaggaca gtatagtgat 2400 accccccgcc ccatggcaca tgcacacaca tatgtaagta tacatacaca ttcacacaca 2460 gtcctgcgga gctgcctcag aacttaatct attaataaat aagaatcaga aagctaattt 2520 cataaaattc aggcttcata tttgcagccc aaattgagag gaaagtggag gccagagggc 2580 tgaggtttat tgcttctccc ccagcatcca acaggagatg tgagagggca cccgaggccc 2640 actcttcaga ctctaagaag ttcttttggt ccatggtcta caccagagcc ccagccccta 2700 gcataattgc atacctgtgg tttcaccagg gcctaggcag agggaatgat ggggaaggca 2760 ggaagcctat tctggaaccc ctggaacagg gaagcaaggg cccctctcta acagggggag aaggatgggg ctcagccttc tcttgtgcaa agtcaagggc agtgggaaat ggggagtaca 2820 gcttcatctc aaaactggga tgaaggagcc ttccctgtag tccctgccca cggggtttac 2880 acacatgcac acgcacacgc acacacagtt aagacaccaa acacggggag tggggagtga 2940 gggctctgga ggtcaggatg gcagggcagg gaggggaagg aaggagttgt tggtctcaca 3000 gtgtgcctgc caatcccaaa gccctagaga ccccttcact gcagcacctg ccccgggtc 3060 tcaggcagct tcagggccag agagctgcca agggcaaggg cagctgaggc aaagaggatg 3120 3180 ggtgcagcct tggtgattcc cacgaaggat gtgaagatgc tgatccccag cacagctgcc agcttacaca gggcattcag gaagccaaaa gctgtggtcc tgctcaggag tcccccagtg 3240 3300 ccaggaagat gcaggcagtg tccaagaggg agagagaagg ttggagagat cagagaggta 3360 3420 aaggatgtac accaggaatg taaataaatt gagagacaaa gggaaaggag accaaaaatt gaggttaaca gttaagactt tgaggagtag atacaaaagc taccagattt ttttttcctt 3480 ttttttttt tttgagacgg agtcttgctc tgttgcccag gctggagtgc agtggtgcga 3540 tctcggctca ctgaaagctc cacctcccgg gttcaagcaa ttctcctgcc ttagcctcct 3600 gagtagctgc gattacaggc acccagctaa ctttttgtat ttttagtaca gacagggttt 3660 caccatgttg gccaggctgg tctcaaactc ctgacctcag gtgatctgcc tgcctcggcc 3720 tcccaaagca ctgggattac aggcatgagt caccgtgccc ggccaaagct accagatttt 3780 agaggagaaa atggaaatgt atatcctctc acccctaagg atgctcttcc cattcagccc 3840 tccttcctca ccccaccct cccctgaatc cactgccctg cctccaacac attccaacta 3900 cctcttgtct gaggggtaga gttcaacagt caacacgtcc agcgcattcc aggatgcaat 3960 gctgaccccg ccaaaaaggc agagcagagc gatcatggcc gactcactgt tcccaaaaga 4020 4080 gagcaacatg agcctggcca cagtgaaacc cacccacagc ccaccctgtc ccatcagctg 4140 4200 gctttcagat agcccaggat gagacttgtt ccgaaggtat ccaaccaagg tatccaaaag gaaggetttt cacteeteet caaceteeet tataattgtt tattaataat ateagtaace 4260 atcatttatt caatgccagc catgggccaa ggcaattgat gctttacatg cattgatcta 4320 gcacatcaac cctatgacac aggtactatt atcacctcca ttttgcagag gaaacaacca 4380 ggctcataga ggtaatttgc cagaggccag aggcaggtgg tggagctgag attcaaaacc 4440 cataacctca aagcctgtgc cctaaccact tgcaattctg cttacctcct ttacccccag 4500 agaagcttct gtgccagtcc ccaccccatc ctgcagcacc ccctaaacag aaaacatgag 4560 agaggaactc tctgaccaat ctcttccaca gcccaaggtg agaagcctgt tgactgcctc 4620 ccgcagcccc tggcccctac tatcagatct gactcagcct ctccccctta ccaagcattc 4680 4740 tgagcctgcc gatcttgtcc atgagcaggg cagacacgat attcccagga agcactgcca 4800 gtgtccccag gaagctcaca aagtatacca tgtaggcacc ttcgcccgtc cctgtcacgt 4860 ctagcgggca gccctccttg ttgtgcagga atgtactgtt tatcagacgg ctgttcacaa 4920 acttgtactc gaacaggtct gtgggcaaag gccaagataa gcaggcagtc atagcagatg ggagagggag gctgttacgg cttatggctc agggctctgc atgtatgaaa gttagtagga 4980 5040 ggggctctca aaattattca cagtgctaat cacaaaacat caaataacat caccatggga 5100 actagggatc tttagagcag aaaatgacca tcatctgtcc aacagtgtga ctttgtccaa gttctcccat taatagtctt agctgcttat tcattctttc tgtccgtgct agctgactat 5160 aagcagtagc gatgccgtgg acttaggaaa tttttctgag aaaaacattt aaaataataa 5220

5280 aaagteetat eeattgttgt ttteetgeaa eatggaaaaa getegeeeag tatgaggtgg 5340 qaaatttcaq tctaqctcac aaaaccaqca tttcqtqtqc atatactqaa gtttqaqaat 5400 cactattaaa aaggagtgga ttcatgcaat gatccgcacc aaatacccct tttattgatt 5460 gtttttcttt ttcccaagaa tgctattttg gatgattttt accttcttca aaagtgcatt 5520 aattttacct cactgagtta taatttcagc caaaggcaaa taaacttgat gtttttgtca gatattctat tacaggaaaa tgtccaacat ccattagatt ttcagaatta ttggtggtag 5580 ctatcaggcc cctctgccac cttcccacag gggtccaggg atctcagctt gagaacccta 5640 agatagtgaa tgaaaaaggt teetteteat caaggteeac ceaaccettt ggtetgacae 5700 5760 ccaccagcca ccccgcctta ccagtgttat agaacacagt gttgatgaat gtgcagttgc ggaaaaacgt gttgctggat gtgacatcct caaaataaca ctcttcaaac agggaatcct 5820 5880 caaaggacac tgacttgagc cgcagcccaa tgaacctgta aggccaggat ggtgaaagac 5940 actccccgt catcctcatg cccctccaa gactcactct ttagcgaagt aatgggaagc 6000 6060 actcataaaa gagacgaggt agaaggaaca gggaagaagt gaagtttaaa agtccccaca 6120 tacttgtcat tgaagtactg cccgcctcgg tggatctgat tctccaacgt gaagttaaaa 6180 gttacatgct ctacgcgctc cccggggaac actttggtgc gggatgcgta gtccactgcc 6240 tggagatggc ggatcatgtc aggaaaccag acggtcaggc catagtagct gaagagtcaa 6300 ggacaatgga aacagacaac agggcttcag acaaggctca gagattagaa tcaggcagag 6360 gagaaaacgg aaatgtgtat catctcagaa caagggagaa atggagtcaa cctctgttag 6420 gaccttgctc ctctccagcc tcaccagctt ctccctgctc ctcccttcaa cagttgctgc gctcctgggg gacttcaggg tctcgcacag cagccactat acttttctt acctcccaag 6480 catttgcttt tccctctgcc aaaaacactc ttctccaccc cagccacccc cactccacct 6540 gtctgactcc cattcacctt tgaggactta ggtccccacc ccagcccaag ccccaagtgc 6600 teccaetgee ettecceae cetteteta teaccetget teatageaag tttegtetea 6660 cttctttttt ttcttttgag acggagtctc gctctgtcac ccaggctgga gtgcagtggc 6720 6780 gcgatctcga ctcactgcaa cctctgcctc ccggattcac accattctcc tgcctcagcc tccagagtag ctgggactac aggcgcccac caccatgccc ggctaatttt ttgtatgtta 6840 gtagagacgg ggtttcaccg tagccaggat ggtctcgatc tcctaacctc atgatccgcc 6900 cgcctcgtcc tcccaaagtg ctgggattac gagcctcatc gtcctgcttc ttaaccaaaa 6960 cataaactcc aggaggacct tggaccacat ctgtttcatc ccagcacaga atagaaactg 7020 aatcctggtc agcctacagt acaagtttgt tgagtgaact agcgaagtag aggagctggc 7080 tgcaggatca gagggggtct gcatggcacc ttccctcatc gcttgtcccc tgcatctcca 7140 ttctccccac ctctctccca gcccacacac caccacaacc accacacatc acccagccca 7200 cccatctcct cacctgaatg acatggtgaa ccacacaccc atcatcatca gagtgatgcg 7260 ccgatattcg ggaccaaaac aggagagaaa attcccccaa acctacaggg gaccagacaa 7320 agtcagacct tgactatact aagttctagc acccatagat ccccactttt ctgccctccc 7380 acctcccttc agctcaccca tcacccacac acatagactt cagtcctgcc ttcttctcca 7440 7500 cttccccac tcccttctat ctaccacccc gtccaccatt acctgccccc ctaggctcaa 7560 ggcccggacc ccccagcgct ggtaccaggt ccctgtgtcc gactggatct caatcaattc 7620 atcctcctga tgaatcgtct taatgtgggt tacctggggt caagagaagg ggtgggcagt cacacactct gtgtttccca acatcggcca ggcgcctcag tttcccctgc attagcaaaa 7680 7740 tgggaggcag gaggtggata tgataccctg aaaatctcct tacggtagag tgtggtctga ggtggggggt actcagagag gggccaggta ggggctgggg ctgcagggcg tggaggtctg 7800 agtcgggagg gctgtggctt actgagaaca ctcgctcagg atgtcctttg gctcgcatgt 7860 tggtatcatg gacctgcttc agcaccatcc aggcctcatc atgctttcca ttctagagcc 7920 aaagacacaa teeccacate caagteagee eetacetgae eeagagttat agaceeeete 7980 cctcccacct ggcttctgta gtcacaggac actaaatggt tcccagccct caaccccacc 8040 accaagccct gacctatggg catgcactca ccactctgaa agagccccaa gctgaggtat 8100 agcaagacaa tcagacttgg gcaagagctg cgggttgggg gtggggagtg ttgtccaggg 8160 gaaaaaggca agcacaggtc ttgggaattc catagtacag aggaatgtaa aaaccaaagg 8220 taagggaaat gatgggcaag catgtagtca aagacctaat cctgctgggg ttaggagggg 8280 aaggtatagg gggtgggaat gtctcttgag ctgtaaatgc aggacagggc caaggccctt 8340 ccctgcaaaa tcttaagtca tccatgggtg aagaggtccc ctggtttctc cacccaagaa 8400 cccctcaggg acacattcca aggcaaagaa tgcaagataa agtcccctgg agagtggact 8460 ctgtgaggaa ggcaggcagt caaacaggat caaatcaaac tccagttggt gtttgaacac 8520 8580 agaageceet getgeegtee acaetecaea geeegeaeee caeeecaeee catgeagete agccccatca cctctaggaa gaaacggggg ctctcaggct gcgtggtcag agccccaatg 8640 8700 gcaaacacag aaggaaaggc gcagacgagg acgaagaccc tccagctgtg gaactggtag gcagaaccca tctgaaaact ccaccctggt agggagaaag tgacagcatc agcagagagg 8760 8820 tggggtggat ttccgggggc tgctcaccat agtgggggat gatggcccag gccatagcag 8880

8940 ctgcgtacac gccaccaatc atccaaaaca tgcagagcca gctcaaatgc tcccctcgtt tctcctgggc cagaaactcg gagaaatagg agaagacaat ggggatggac cctccaatcc 9000 9060 tgaagtgcat ttcaagaatt cagcattagc aaatggccat agtcctgatc ccctgcccca ctgctctgga ccccgagccc cttttgtctt ccaggctttt gaagagactc catctcacac 9120 9180 ataaagcctt acaagctccc atgtgggcca gccatcaagc acccatcctt gggaccatgg 9240 gaaacaggca agcgagtctc agggaaaggg aaagagcaaa tcttaaatct tgaaaatgaa ttacagagtt ggaagggcgg gaaagtaatt gcagaaaaga gaataaatct ccagagaaaa 9300 aagacaagcc aaaagcctcc aagggcagat gttgtgggaa tggccagaaa ggagcttgga 9360 gttgaagcag agtaagcggg cctgccatgc ttgcaaaagt gaaggggcag tgcggacaag 9420 gcgtcagggt tctggcaggt gtgggtgtta gcaaggtttg ttgtgtaatg caggaaatgt 9480 9540 gtagactctg gtagggggta actctgggtc cacaggagcc caggggtggg gctgaggccc 9600 actaggcctc tttgtggagg caggctcaaa aatggaacta gaggtggggt ggaggactca ggagtgggcc aaggaacagc attctggaca gcagcagaca ggtcctgggc agggaggagc 9660 9720 tggcctgaag atggctgggg gagaaaggaa ctcattcatc cgttcaactc acacagattt 9780 aaggtgcatt tggtgtgcct ggcactgtgc tgggccctaa agatacaaca gtgaccaagg 9840 cacagtectg ceetcaaggg acttaggaag tgtacaetca eecaaeeeca gaaagtagge 9900 ggcagaagag gaaagtgccg taaccctgga caaaagatga gaagaaggcg aagacgctgt 9960 tgactgagag cgagatgagc agacactgcc tccgacccag ccggtcagcc agacctcccc 10020 agaggaaggc tcccaccatc atgcccaggt agacgatgag gcctggaagg aggaggaaaa 10080 caggcagagg gggtgtgagc agacacacct taattctccc aggagatgag cactgaggga 10140 gctgaaggat ctgaaaaact tctagaaggt aagtctaccc agagattaga gcaagtgaga gaaaatgaat ggtgtaagca aagatagaag atcatctctg caggccaggg gttcaaaggc 10200 aggaatgaag atatgggaga acctgcaaac tctccactct cttcggtctg tctcatttct 10260 cactctgaca cacacagt gacaccttta cccctggctc actttgaagg aggaatgggt 10320 gtgcctagga tcacagacca ccccagggtc ctctctattc tccctgcttt gatccctcaa 10380 agcagcagga gagctctcat ttgttcctgg ggaaaggggc tccaattcat ttcatcttcc 10440 10500 caggaaatct cccacacaaa atccatcctt tactccttcc agtctcaata tttctggtcc aaaaactctc ctgtttttca ctgccttcat aaaaccaaag ctggaattaa tctttaaaat 10560 10620 catctactcc aaactttgca ttttcccatg cccaaaccaa gccccaggaa gaagagacct 10680 gtccaagacc ccatggcaat ttggtggcag agtaaggcct cgattctttc tctgtgagtc 10740 tacggggttc ctcctcagag tccctgtcag gaaaggccat caaagactac atcctgtccc ctggaaactc ccatctgagt gagagaaagt ctaaccagct tctctggcag aagatccagg 10800 accetecece ectececcaa ecaceceaaa etgaetetee ecatttatae eaaggagttt 10860 ggatactggc ttcttgttcc ccaatcagtg aaagggaaca ggataaccag agggaaagct 10920 atgaagaaac attaaatggt agggaccatc ctaccacagc cacctcctgc agaatgaagc 10980 agaccaccac ccaaccactg gcccaagccc cagtccagct gccctcccgc aagcccctct 11040 gtcacattca acttcaccct gacccaaggc caagaagagg gagtgtgtga gggaagagtg 11100 tgcagaggaa ccctgagccc tctgggaaca tcttgggtgc agggtcctag ggaacccagt 11160 ggtaaggaca agagcaattt ccaggagcaa ggaggtttcc agagtttgag gggataaggc 11220 tggagcccc catgtcttac ctagcatgcc tttgttggag tcggacaggc acatgtcttt 11280 11340 ctcagcgctg ggcagcacga agcccaccac aaagacctcc acaccgtcag ccatcagcgc 11400 cagaccaagc acaaaataca gtgtccactg gaagcggccg tggccacact cccgtaggat 11460 ggcttcatac tgttgggcca gttcttctcg ttctttccgt cgttgtgcct cccccggcc 11520 cccaggggga ccctccccat cactcaagcc cccccttact ccagccaggg gcgccccatc tgccatccgc tcgcctttgc ccccagactc tgcccgggga atgccctgat attccccttc 11580 atagatetea teatectegt catggeeete agtageatea etggatgeae cacetteete 11640 ctcatcctgg gtcccttctc ctcggtaata accatcactg ggagcaggga agtcatcatc 11700 atcatcctcc tcctcaaagc gggagtacga tcttcgggaa tattcgtcct ggactctgtc 11760 caggcccttc accaccttct tggccgcatg ctttttgact tccttagcaa tgtctttggc 11820 cccacggatg aaagctgccc ggtctcggaa gccctcttcc atgatggggc ttggggcact 11880 tcactgggtc ttctccacct cctgcttctt tttcagcttt ttgctcaagg acttgtagag 11940 12000 tcaaaaagac ccctccccac agttacttag atgaagcgtg ttccagtatc tctgggcaca aaaaaaagag caaacaggtc ctagccaatg agtgcctagg aaggaaaagg aaagagagga 12060 gctttgacct atacccagtt cagttgggtg gatggggaag ggacaggggg agcaggggaa 12120 tgggaagggg aaggggagcc agattgggag gctaagccag gataactcag gaagggtcgc 12180 ctgcttctct tccacaagcc tctggagacc tagaaaaaat aacagacagc aaaaggaagt 12240 tgtgagtcct aaggtggtga agaaggccag tataaagcct ctcaacccag agccccatct 12300 ggaccatgtg gtgcagagat ggtcttctcg ctttaggctc ccatccacac actaaaaagg 12360 gatggctatc tgggctaacc gggtcactca catagaagtc cccttacttt gaccttggag 12420 gcctggcctg tggaatttgc tccaaagtcg cagtcaccta cccccaaacc caccccagcc 12480 cttgctttat caccaatctg caaagaacta aacaggaaat atgagaaacc agaattccct 12540

	tetttagtet	tgcctgggtt	tcttactagg	ggtggagttg	aggaggatgt	gtaagaggac	12600
	aagccctcca	acctgtggcc	ttccctcctc	tgatggcatc	tgaaggcagg	ggcttccact	12660
	gtccttccct						12720
		taaatgctca					12780
		tagctaaggg					12840
	agggtageat	gatataatgt	atctatoctc	cttaccataa	atcacctage	acataaaaat	12900
	gatgaataaa	tattaattat	taattttgtg	gtgacagtaa	tataqtqaaa	tgccctatac	12960
	tacctcataa	ggtccccaga	tgaaagctat	cttggatgct	ctttagggtg	agcagcagga	13020
	aggacactg	gcaaggagaa	tcctqqttca	gggcaaagca	catgactgtt	aggggtgacc	13080
	taagttgaaa	tcccaactct	accacttact	aactgatctc	agtcagggta	gttaacctcc	13140
	ctaagcctca	gtgtccatct	attttaactq	gggataatta	aattgggaga	ctgtttcttg	13200
	gagttgatgt	gagaatgtaa	tctcacagta	gatactctat	gttagttttc	ttccttccta	13260
		agtgggaaag					13320
	gatgctgttg	cccagcatcc	ttgcaaacag	agtcccaaga	cacccctatc	tatgtttcaa	13380
	ctaattccag	tagctgggcc	cacattaact	acctccagaa	gaacaaggga	agatccagaa	13440
	aagggggacc	tggaacccaa	gtaaagtgga	ggaaagatgg	aaagctaaga	aagaggtgat	13500
	gactgtccac	tgccaccttg	cttcagaatg	tcatagatag	gccccctttc	cacagatggg	13560
	ggtgagaatg	gaaatgactg	tcaaatgcat	acatttccaa	catgaggttc	taaggcctac	13620
	agttgcatcc	catccctcca	gggcctccct	tcctaatccc	ccttaatcct	ttctgctcct	13680
	cctccaggag	tcaaggaaga	aggagtccac	aaacaccgca	ttgcgtagga	ggcggatgta	13740
	gaataaaggg	ggtttgggtg	tcccccaaa	aaagacattc	tccagaggaa	ggcatgggat	13800
	agcccccttc	cttcatagga	gcagaggaag	caggcctaga	ttctgatcag	aaatcatccc	13860
	cctaaaaata	tcctgcctcc	ggtgctccca	cccatccagg	gccttcatta	aaacacacac	13920
	acacacacac	acacgcacac	acacacacac	gccctggtag	aagacggtaa	gcaatgctat	13980
	gtggttcaga	gagaagcact	ggcaagcagc	gccttatccc	ctcaggacag	atgtaagcag	14040
	tggaccacgg	tgaccagaag	cagtgacccc	tatgtcacct	tttcttcatg	gttcagggcc	14100
		ccatgaaaga					14160
		tctttcctaa					14220
	caggagccat	actctatgtt	tgttgaccct	atttccccct	gagaggggca	cgtagggcag	14280
	gaaagccttc	cacaaccaca	gcaggatatg	aggtctcaac	agccagcttc	ctcagggcca	14340
	gcaagcccag	gaggtcagga	gagaaagaaa	gaagacaaat	tctttgagct	ggtgaggaag	14400
:	tggtgctatt	tttagccccc	aaaacagcac	agggtggcta	agcctggggg	agtgagacaa	14460
	gacttggaga	ggtggaggtt	aaaggagaca	aggttcaggg	ttacaaggtc	ctaggctggc	14520
	tgacttcacc	tgacaggaaa	aaatgtgccc	aggagatttt	ctgcagaggg	tggagacagg	14580
	caggggactc	cagagcaaat	gctttctttc	agaacagctc	atccagccct	gggtccagaa	14640
	cccccaccc	tcccagtcaa	agcccctgac	tttggggtcc	acccagatcc	ccaggccttc	14700
	ctagctcagg	tgacaaggtc	attaaaaagc	aatcacttat	caaaacgtcc	gcgggggcgg	14760
	gggtagaatg	tgggaggtgc	gggagcaccc	cttccccatg	acagcccggt	categaactt	14820 14880
	cagcccccac	ccaggaccat	caagactgcg	ectecetee	ccacatecta	ccaaygitag	14940
	gaagatagga	gcacccacag	ttctgaggga	taaaaatgag	ggtgtcagct	gagaatgcac	15000
	actgaggaat	acggagaggc	agagaggggg	acgcagggag	agadettetgt	tacctcacct	15060
	atagagaccg	cccctatcag	cattigeage	gaecececca	actotacce	cctcctccac	15120
	ccggaataag	ggaaaagccc	ccayaactga	cttcactcaa	catcccttcc	cccaccccg	15180
	ccttggtcct	getgetagae	aagtgteeat	gagagaaga	cateceetee	ctacatctct	15240
	gagcaactgc	tatttggatt	cttcactcac	cttccctcca	tccttcacct	gcccttcttc	15300
	gteteeeeag	gaggaggg	autcaecccc	tacacactaa	adcadcatca	attctccagc	15360
	aggaggaaa	gtgatttatg	attesteete	aggatagaa	gacatcaaaa	tgaggagggg	15420
	ataggggaatt	gagggaacct	catcccccc	cacaacccca	ccaccacatt	aatctccgaa	15480
	acayyayıtı	gayyyaacct	taaggtaggg	aaaaacaccc	ctcctcccca	ttcaccaata	15540
	ttatacatat	gggacttggt	atatatata	tgaagaggag	aactgaaata	aatgtccatc	15600
	cccasaccac	caccaaccca	ccaacccccc	tcacccctag	agaggggatc	gtcaccctcc	15660
	ccataaccac	agcatcggag	gataaaatgg	ctgcaaggca	aggcaaagat	gcttctgcca	15720
	adadcadada	ggaggtgagg	gactgagaaa	ggggtctcac	ctggtctagg	ttccccgggt	15780
	aaggagteee	adacasaasc	agagataca	accacaaaca	gaggcggcag	cggcgactgc	15840
	tcccggcacc		2223		-		15857
		333 3					

<210> 12968

<211> 3900

<212> DNA

<400> 12968 60 attttgatag atagttttat tataaaaaat tggctttttg attatggaag ctaataaatc ccaagatccc caagatcttc agggtaagtt ggcaagctgg agacccagga gaactgatga 120 tatagttcca gtccaagttc aaaggcctga gaaccaatgg tgtagttcca gtccaaaggc 180 cgagtctaag acccagatgg agccagtgtt tacttctgag tctgaaggct gagaaaagcc 240 aatgtccggg tctcaaagca gtcaggcaga aggaagtctc tcttactccg gagtgggtca 300 gtcttttgtt ctagtcaagc tttcaactgg ttggatggga cccacctata ttagggaggg 360 caatttactc agtctccaat tcaaatgtta atctcattca aaatactctc acagaagcac 420 480 ccatatttgg ccaaatatct gagcaccaat cctctagaag ttgggacatt aaccatcaca 540 qqccqtqcqt ggtggctcac gcctctaatc ccagcacttt gggaggctga ggtgggtgga 600 tcacctgagg tcaggagttt gagaccagcc tggccaacat ggtgaaaccc ccctctccac 660 taaaaataca aaaattagcc aggcgccatt gtccacgcct gtaatcccag ctactcagga 720 ggcggaggca caacaatcac ttgaacccag gagacagagg ttgcagtaag ccaagattgc 780 atcactgcac tccagcctgg gcgacagagt gagactccat ctcaaaaaaaa aaaaaagtt 840 aaccatcaca ggtagagttt aataggcttt atctctgaaa cttagtctca aacagtccag 900 aaaataatta tatatttgta gataggtaca tacaaataaa acaaacagtg aattgttaat atttgggtaa tctaggtatc aggataaagg atatacagga attatttgaa ctgttttttt 960 taactttaga tgcacaaacc ttgtaattat ccttgacact ttccctccca caaccaagcc 1020 attaccacac cctgtaggtt ttactttcct aatatacatc ctgtagccac aatttctctc 1080 catttccacc accaccacca ccaccttggt ccaaatcatc atcatctctc acctagactg 1140 1200 ctacagtaac ctcccaactt gtctccctgt ttccactctt gcctcctcta caatccattc 1260 1320 atgatccttg attggtttct gaaaattaaa catttataat gtttacttag actgtgctgc tattacaaaa taccactgac tgggtaattt ataaacagaa atgtattttc tcacagttct 1380 1440 ggaggctggg aagtccaaga ttacggcact ggcaggtttg gtatctagtg aaggccagtt cctcatagat acgccatcga ggtgacctta catggcagaa gggacagaag gggccaactt 1500 acccctcaa gctctttcaa aaggcgttag tccattcttg agggtggagc cctcatagcc 1560 ttattacctc ctaaaggccc caccacttaa taccaacacc atggattaat tttcaacatg 1620 aattctggag gagacatatt caaactatag tagacaccaa tgagacagtt ggggaaatct 1680 gaatatcaac tgtatgtgat tatagtattg tatgaatgtt aaatgtcttg gatgtggtaa 1740 tggtattgtg gatatgtatg aaaatgtcct tgttcttagg agatacacat tgaaagtaca 1800 tagcaattaa gtgtaaagaa ttttgtgggg ccaggcgcag tggctcacgc ctataatccc 1860 agcattttgg gaggccgagg cggactgatg acctgagtca agaccagcct gaccaacatg 1920 gagaaacccc gtctccacta aaaacacaaa attagccaga gtggtggcgc acgcctgtaa 1980 tcccagctac atgggaggct gaggcaagca aatcgcttga acccaggagg cggaggttgc 2040 tgtgagccaa gatcgcacca ttgcactcca gcctaggcaa caagagcgaa actccatctc 2100 aaaaaaaaaa aaaagaattt tgtggctggg tgcagtggct cacgcctgta atcccatcac 2160 tttgggaggc tgaggcaggc agatcacttg aggtcaggag ttccagagca ggaggatcac 2220 ttgaggtcag gagttccaga ccagcctggc caacatggtg aaaccccatc tctactagaa 2280 atgcaaaaaa atttagccag gtatggtggc accagcctgt agtcccagct actcaggagg 2340 2400 ctgaggcagg agaatcactt gaacccagaa ggtggaggtt gcagtgggcc aagatggcgc 2460 ttttgggcca ggcgcagtgg ctcacgcctg taatccctgt aatcctgggt ggccgaggag 2520 ggtggatcac ctgaggttgg gagttccaga ccagcctgat caacatggag aaaccccgtc 2580 tctactaaaa atacaaaatt agccgggcat gttggcacat gcctgtaatc ccagctaatc 2640 aggaggctga ggcaggagac ttgcttgaac ccaggaggca gaggttgcag tgagccaaga 2700 tcacgccatt gcactccagc ctgggcaaga agagcaaaac tccatctcaa aaaaaaataa 2760 ataaataaga tttctgcacc taactcaagt gattcagcag aaataattat tattatttca 2820 ttattattat acacacatac attaaaagag atacaaagcc aagtctggca aaatcttatc 2880 agtgaaccta ggtgaagagt ggataaatgg gttgctcatt gtattaatct tgcaaatttt 2940 3000 ctggaagttt taatttttt taaaggctag ggaaaacagt gtatgtcata gtttaaattt cttgagtgtg ataaggttat tgtggttatg tatgagaata tctttgttct taggagatac 3060 atattggagt agttaggggt gaaatgtcat gctatctgca acttactttc aaatggttca 3120 tccaaaaaag catataaata tattttaaag tatatgtaaa gtacttaaat atatgagtat 3180 atatgtacaa gtataaaata aatataaatg caaaaaatgg tgggtcaagt gaaaggtaga 3240 3300 gggtgttgct ttgaactatt caacttttct gtggctttga catttttcaa aatgagaagt tggggaaaaa catttagaaa tatgtaaata tattaaggat acaaaataaa atttaaataa 3360 ttttacaagt taagaatcat cctggaaaaa ttacatcctg ttacatccct gcttaaaacc 3420 tcagtagctt cccactactt ctaggataaa gacaaaattg cctaacaagg gctacaaggc 3480

```
ctggggtggt ctggcccgtt cctctcctcc tggtacccta ctcatcacca tcagctgccc
                                                                   3540
                                                                   3600
cctaggetec aaccacacat aaccacacec taactacace agaaggaaag acteeetcaa
aattetetet ceteetgtee titacacatg cagetaccaa agecaaaace teactatgag
                                                                   3660
ggactgagaa atggattete atgttgttte tgetgaactg ttteeetaaa teteggaaat
                                                                   3720
attetetgee egecteecat tecacetete caacecegge caagtetggg taacttgeet
                                                                   3780
ccttagcatc ctgtgtttat ctcatcgtag cacctagtac ccagtattgc aattgtccgc
                                                                   3840
tcacttgtta gtcttcagtg ctctgttgtc tccttgaaaa cagggcctga cttgactccc
                                                                   3900
<210> 12969
<211> 1093
<212> DNA
<213> Homo sapiens
<400> 12969
                                                                     60
ctcttggaaa aaaattatgt tagtcttcta taattataga aataataaat gttcacaata
                                                                    120
gaaaaattgg gaattttaga aagagtagaa aaagaaatcc ctataatatc cccacccaaa
ggcagttact attaaatttg ggtatatttc ctaccagcat tttttctcat gcatgcattt
                                                                    180
                                                                    240
cttttttacg tagctgtgat catgaaaaca agataattcg tgtcctgtgt tattcatttg
                                                                    300
acatattcca taagtaagct ccattataga aagtaactta aaatgatgtt gtatgtttgt
                                                                    360
ttttgtttgt ttatgtttta ataaagcatg tggattactt ctataagacg aaagggaaaa
tgtagatcct atgcacaagt atttatttcc ctccaaaccc cctttttata atatgtattg
                                                                    420
ttgattttat agagtgacct gatcagtaca tgtaggggct caaatcacag ctattcttta
                                                                    480
atacttcggg ttacttcatt gctattattg tttgttacta atatgtaaga tgaggaaaag
                                                                    540
                                                                    600
acaacctttt ggtgggtgtt gggactggga gggagggcat tgaggacaga tgaaccaaag
660
                                                                    720
aagaaaaaac ccgtctagag gccagttggg aaaagaagga agcagaaaca aacaatagga
tatgaggttc agatttcttt accaagaaga cacagatctt tcatgactgt agacaagacc
                                                                    780
                                                                    840
gagagagaaa caaagcctcc ccaccccgaa agtcccctga aaggaaaaac attgggaaaa
                                                                    900
gggaactggt aggaaatgac tggaagaacc aaagaaacag tcctcctaaa cagaatgtta
ggtggtacgt aatacacggt tttcaggatc tccatttgtg ggcatactgg gagagtgcag
                                                                    960
gcctacatgt gctagtggtg agctgggggg aaatggtgca gtcaataagt gctagtttgg
                                                                   1020
caaacaacca gataatagaa ctaattaggt tagtttctct tcttatatta accaaaagtt
                                                                   1080
                                                                   1093
cttatattaa cta
<210> 12970
<211> 312
<212> DNA
<213> Homo sapiens
<400> 12970
                                                                     60
ggccgggcgc gggggctcac gcctgtaatc ccagcacttt gggaggccga ggcaggcgga
tcacgaggtc gggagatcga gaccatcctg gctaacatgg tgaaacccgg tctctactaa
                                                                    120
aactacaaaa aaattagcca ggcgtggtgg taggcgcctg taatcccagc tacttgggag
                                                                    180
gctgaggcag gagaatggcg tgaacccggg aggcagagct tgcagtgagc cgagatcgca
                                                                    240
ccactgcact ccagcctggg caacagagcg agactccatc tcaaaaaaata aaaaaaataa
                                                                    300
                                                                    312
aaaaataaaa aa
<210> 12971
<211> 21100
<212> DNA
<213> Homo sapiens
<400> 12971
ggcagctcct ttagcggcag agttttccga gtgaccttct tgatgctggc tgtttctctc
                                                                      60
                                                                     120
accettcccc tecttegage cateatecte ctatagatec acagectete
                                                                     180
aggtaggctg ccccgcagtc ctcaggaggg gttgcttgac aaaatgtaat aggctgaaat
aatttccaag gaaaggaggg tgattaaatc aatctgatct gaaaggtaag ttaggagaaa
                                                                     240
tagagttttg tgatttcttt agtacctggg tttttatgct gaattagatg ttactcagga
                                                                     300
```

360 aatatgcatg gtattttccc tgtcattgtt ttaaaaaaac tgcatcaacc aaaaacaaaa 420 attcaaaatt agagaagctt aataatcatt agacagtcaa ctataattca tttcaggtag caaaaacaca cacaaatgga gcttcagtta cctcatttaa attttgtaag taactgattt 480 tctacaaaac ccataattag tgttcttttt ttcctaagtt acctttcacc gatagagatc 540 tatgagtaat gcagtccatt ataatttgaa aaaactattg tatatgtaaa gccccctgaa 600 660 atagattcat gtttataatt atagtgggat agagccaggc tctcatcagt gtgacgatct atgacttcca tgttgacata gttgcaggag ggttgtgcag tctggttcag taatttcctg 720 gttccccttg caactgctga tggggtgaag ccatctgaag cttattttaa atgagttagt 780 840 ccaggtaagg ctttaaaaac ttcagacaag aattatacct agttaaagag tgaatataac atactagctg aataatgtag tgttttatcc ataaaaatta aggctttata ttggatccga 900 ttcactaaga atgtagagga cacggttctg accttagatt gacatgtgta gctgagtgaa 960 1020 ctttttgttg ttggatttag aatagtaaag gcacaaggtg ctgtaaacac acaatttgct catgtaagat tgagaatggg tgaaggactg gggactctag tccgctccaa gagtgtcagc 1080 tctgtaattc ctggtgtgcc agtgggtctt cagatggatt tttctgcctg agccaggcct 1140 1200 gaggacatcc tgtctccaaa ggaggggcgt caggggtggg tggcggggggg gggtcccctg 1260 atgtgttgag ggaggggett ctctctttct aacccttctt tacagagcag gatggctcat 1320 tctagccaaa gggaaactga cctgggcctt cttagatagt ccagttggct aaggtggggg 1380 agtgaactgt gtccacagct ggggattaga agcttgggtt ggggggctgg ccttggaaaa 1440 ggaggctgag gttgagtttt gagttggaga gagaggttgg agcctcagtg attgaagacc 1500 tttgatctca ggaaagatga ttttatgtgt ggaaagagtg gtgaagaaat gcattgggaa atggggtatg tggccctggc cagacactga aaggaagcag agcctactgg ggattggaag 1560 1620 agagaagcag tggaaccgct gcagccaaca gggacctctc tcctgggctc agctttcgga 1680 atggcagtgg aaccatcaca gccaacaggg acctctctcc tgggctcagc tttcggaatg 1740 gcagtggaac catcacagcc aacagggacc tctctcctgg gctcagcttt tggaatggca 1800 1860 gtggaactgt cacagccaac gggtctctct ctctctcctg ggctcagctt tcagaatggc agtggaacca tcacagccaa cagggacctc tctcctgggc tcagcttatg gcattggaat 1920 cacagccaac aggggcctct ctcctgggct ctgcttttgg catggcacac tcaaaaacag 1980 gaagataggc cccaaaatgc agagcagaag cagaagcctg gtacatgaca gagcttggtg 2040 tgtctcatgc aagaacgtgg ccacaacaca ggccatgccc catgcacgcc atcccagcgg 2100 gtgctgactc agctgcagcc ctctcagccc acagtcactc tgtggaagga catggtttct 2160 ctccagaagg gaacaaaaag tttattttc atagaaggat atgaatgttt ctagtcactg 2220 2280 aaaaaaatatc agttaaagtc aaatttatgg taaaaaaaaa tagagcagca ttttggagaa tggatttggt tgctataatt ttaaagacca acagaaagag taattctact gggagttgaa 2340 agttgcagta ctgttagaag tacacatttt actatcgggt gaaactgtca aactgagaga 2400 tattaaaaaa tagcaacaac ctttatgggt ggtctgggac atcaagagca aatagaagca 2460 ctgtataaaa ctcaggcagg gccaacagga gacccgctgg ggagggagag agcagtgccc 2520 cacaccctgg cttcctgtgt tagggagaga gatgtggggg acctcagaga gctggttctc 2580 agaagtgctt aggaaaacct ttgtgcagtc tgtgggtcac agtgggtcac ttctctgcag 2640 ttgagtatta ctgcattagt gcaggctttc ttcacttgtg ccagccatcc gtgatcatac 2700 2760 agatgccctg ttactctgtt cacatctccc cacgttgtca cagggatctt gaaaactact 2820 ctgtacatgc tataggaatc aggatgtcat atatgctgtg tctatgacag ccctctaatc 2880 ttcccagaaa gaagggaaag tgactttgca gggcaggttt ttggcaaagc cctgcagcct 2940 tcctggtgat tttgttctca agtactgaaa ccagctgtgt aatagtccag actggaagag cgaccatcct tctctttgtc cctccatact cctggtctgc ctgttctctg attttttaga 3000 3060 gatttctaag tgtggtctaa gctctcacgg gagtgatgta gtatcctggg tagactccca aacacccgtc catcagctga gtggccgttt ctgccccgtc tgctggcctg atcctcttga 3120 ccatggtggc cctgcgctgc ctggcgtgta gaggtgatgg aggccgagcg aagctggcag 3180 ctctgcttgt catcgtggca tggcctcttg accatggtga ccccacactg cccggtgtgt 3240 agaagtgacc gaggccgagc gaagctggta ggtctgcttt tgtcattgtg gcatggcctc 3300 ttgaccatgg tgacgccacg ctgcccagtg tgtagaggtg acagaggctg agcgaagctg 3360 gtaggtctgc ttttgtcatg gtagcatggc ctcttgactg tggtggccct gcactgcccg 3420 gcgcgtagag gtgaccgagg ccaagcgaag ctggtaggtc tgcttttgtc atcgtggcat 3480 agcctcttga ccatggtggc cccgcgctgc ccagcgtgta gaggtgaccg aggccgagca 3540 tggcctcttg actatggtga ccccatgctg cccggcgtgt tgaggtgacc gaggccgagc 3600 3660 gaagctggca gctctgcttg tcatcgtagc atggcaccaa ttgccccagg tggggtttcc cttccttcct cttttgctgt gaagagagct ttaaagaagc tctttttgct gttgtcataa 3720 acttttcccc aacgcttagc tccttcctgt tcttgaattc tctgccttgc tggaggcagg 3780 ggacagggga taatcggaag atattcctct ctactttggt ttcctccagc agtgctcgtt 3840 gggagccttc tgtgtgccat gttgggtgcc agatgctggg aatacagtag agaaaaacac 3900 agaaagaaat ccctgatctc atggagcgta tgttctagtg gggacaaaca gaccataaac 3960

ataacagaag cagatcacac agtgcatgag aagctggtgt gtgctatgag gagcatggag 4020 4080 tagggcaggg gcctgggttc gggggaggta tcggatattt agttgggtgg tcagagtggg 4140 cctcctgggt gggggatggt tgctgttcca agtggagcaa agagctggtg tgaaggccct 4200 ggatagggag atgctggtgt ggttaggacc cagcagggag gggctggtgt gagggatgca 4260 gaaggcacaa gggagagagg gggcaagaag gtgctgtggc caggttgcgg tgctcagagg 4320 ctgctgccag gacttggctc taggtgagag ggggccattg tggggctctg aatagaggaa 4380 ggtcatgatc cggcatggct gctggattga gaatagacta caggggtcaa gggagggagc 4440 aggggggagg cgagaggatg gtggccccag ccagggttgt aaggaggaca tggggagacg 4500 ggttcaatgg tgtcttttca aagtggcctc agcagaactt gatggtgggt tgggaggcgt gacatactgg catgtggatg ggaaggacga gtagaggcag gagtttctgg agccgtgtct 4560 gtgagtagaa gggctccagg gcccagctca ggctcctgct tcaggaagag cctggtgggc 4620 ctcgagaata tcagcgggag gtggcgtgcc ctgtgctgga ccatgggacg gtggctccag 4680 tcccaggaag gtctcccctt gctccttcca tcttctctgt gaaatacgag gccgggtcat 4740 caggtgtgaa acgtgggcac tgcccccac caccctaggt agactccagt ggctgtaggg 4800 ctgtgagtca caggggtgag gaggtccagc tgccctgagg cattggatgg gggtggggag 4860 ctggggaggc tggaggatgg gtgggcacag gcctcaggat gctctcaggt gacaagattg 4920 ctgaaggtct tgcactagca catttatatt tttatatttc ttttgtacca tgatgttttc 4980 tgatatccta gaacagtttt ttcttaaccc ttgtatttct ggcaactgag gatgttgtta 5040 gaaagtgcca tctttatcaa agaactgaga gcaggtgctc ggtacacatt ttcttcacat 5100 gtgtatttat agacagatct ctggaattgc attattttgc agcttcaaag aacccccgct 5160 cttgcttggt gttctgcatc caaatacgaa gctgcgacag gcagaaaggc tgtttgaaaa 5220 tcaacttgtt ggaccggagt ccatagcaca tattgggggt aagtctaagc ttgggtgggg 5280 ggggagcctt ccaggctgtc tgttgtctga gggggcgggt tctgtgggag cagctgcagt 5340 5400 ggcacgctgc ccctggactg gggccctgca catccttctt agctgcggac gtgggacttg 5460 gccctcagac atcacatggg aggccctagt ggctctttct gctggtctca tctgcccagt 5520 ttqcatgcca ttttagcact gggtgatttt gaattcatct ctatggaaca ctttgttgtg ctcaaagtgt tgtgaaagga aaaaggccaa atacagatac tgatttttag ttcatttatc 5580 5640 aaagttaaat agctatttga cagcacagta tttcttagtt ccatttgctt tgtatagatt 5700 tcactgtgat gaagacaaat ggttctcaat atttccactg tttttgtctg actgtttgaa 5760 atctcacctt gatgggtaca cttaagggta accatctgca tcacacttgc ccatgcctca 5820 gaactagaat tgggtctggt tctaatactt gcatctctag caaccttgaa caaggcattt tctgtttgtt aaaatgagaa ttaagtttag tattgggaag gcacagatag tcacagatag 5880 5940 tttaaaactt aatctggtat gggcttgctg agcagcttct ttggaagtgc cgcttgttat tctgaagcac actgttctcc aggcagtggg tggctgtgga tatgtgcaca cagggtgctt 6000 6060 ctgttgtgct ctcaaggccg gtcagtggcc tctcttctag tgacgtttga ccagcttctc 6120 ttgcctgggc cctgttattt gacacaggcc ccaaggactg gtccatttct gcagttggtt 6180 tgttttcttg gctgtcaaag tcaaaattgt ttcaagaaga gtaaatatca tgatagaact 6240 ttgtatttct cttaaaaaga cattggcatt tatttgtgta aattttaaaa gctttagctt 6300 tttttggtga aaaatcaaat cttgctcttt aaaactgaaa cttaacagca gttgaagtgc 6360 aaaccaatga tettacetee caaagagage aettteetgt etttteettt tteaetgggt 6420 tacttctcat tgtactttgt caccaggtcc cagctttttc tctttctttg atgagctggt gacatttctt ggccaggcac agtggggtcc tctctggtgg gtgtgagccg cagggacctg 6480 6540 ccactgctgt ctctgccacc tcatttggaa gctgtcctgg gggctggctg gcaggttgct gacagtggaa ggaggtacta gctctgggga gtgctgggag agagtaacca ccaactatag 6600 caggctttat tttatttgtt tttaagtaga ctttattttt aagagcagtt ttaggttcac 6660 agcaaaattg agcagaaggt acagagattt tctgaaaaag agtttttatt acgattgggt 6720 gttgcatttc gtcaaatact ttttctgcac acatgccatg cacagcctcc cacatgatca 6780 acatccccca ccacaagggt aagtttgtta caagtgatgt actcacatca atacgtcaat 6840 agtactcgga gtctgtagtt tacggtaggg ttcactcttg gttttataca ttctatgggt 6900 6960 ttggacaaat gccatgtatc cactgttatg gtatcttaca gggtgttttc actgccctga aaatcctctt tgctctgcct gttcattcca cccttttctt ttaacccatg gcaaccactg 7020 atctttttgc catctccata gttttgcctt ttccagaatg ttatgtagct ggactcatac 7080 agtatgtagc cttttcagat tggcatcttt cacttagtag tatgcattta tttaaaattc 7140 ctccatgtct ttccatgggt tgatagctca tttcttttta gcactgagta atattccatt 7200 gtatggatgt gccacagttt agttacctac tgaagtacat cttggttgct gctaagtttt 7260 ggcagttatg aataaggctg gtataaacat ctgtgggcag gtttttgtgt ggacctaagt 7320 tttcagctca tttgggtaaa taccgaaaag cataattgct ggattgtatg gtaagagtta 7380 agttttgtaa gaaaccacca agcgtttcca aagtggctgt accatttgcc ttcccattaa 7440 7500 caattagtga gagtteetga tgeteeatgt eetegeeage atttggtggt gteagtgttt tggattttgg cccttttaat aggtgtatag tggtgtctcg ttgttttaat ttgcatttct 7560 ctgatgatat ttgatgtgga atatcttcat atgcctacct gccatctgta tatcttcttg 7620

gtgatgtgtc tgttcaggcc ttttgcccat ttttgtaatt gggttgttca ttttcttatt 7680 gttgagtttt aagagttgtt tgtgtatttt ggataatagt tctttatcag acatgttgtt 7740 tgccaatatt ttctccagtc tgtggcttct cattcttttg acagtatctt ctgtagagca 7800 agagttttta attttaatga agtttcactt attaattatt tcttcatgta tctcaccttg 7860 gttttatatc taaaaattca tcatcatacc ctaggtgtta tatctaaaaa ttcatcatca 7920 tacctagatt ttctcctatg ttctaggaat ttgttttgta ttttatattt aggtctatga 7980 8040 tccattttga attccatttt tgtgaagggt ataaggtttg tgtctagatt tatttgtttg catgtggatg caaacaaatt tgttccagca ccatttgtgg aaaacactgt cttttctcca 8100 8160 ttatgcattg cctttactcc tttgtcaaaa gatcagttga ttgtatttat gtgggtctgt 8220 ctctgggcta aaaattttat ctgttctatt gatttatttt tctattcttt tgctaatacc 8280 acattgtctt gattactgta gctttataga gaatcttgaa gttgagtagt ttcagtcctc 8340 tgactttatt cttttccttc aatattgtat tggatatttt gagtcttcgc cctctccata tgaactttag gattcatttg tctgtatcta caaaataact tgctgggatt ttgattggga 8400 8460 ttgcattgaa tctatagatt aaggttggga aaaactgaca tcttgacaat attgagtatt cctgtccatg aacatggaat atctctccat ttatttagtt ctttgatttc tttcatcaga 8520 atattctagt tttcctcata tagacctcgt gtatattata ttatatttat acctaagtat 8580 gccaatcttt tggatgctaa tgtacatagt attgtgtttt caattccaaa ttccatttgt 8640 tcattgttag tataaaggaa ggtgagtcaa tatcttgcaa tatcctgcaa ccatgctata 8700 attgcttggt tccaggaggg ttttttgttg ttgttgattc tttcagattt tctatctaga 8760 caattatgtc acttgcaaac aaagaaagtt ttatttcttt cttctcaatc tgtatacctt 8820 ttgtttcctt ttcatgtctt actgcattag ctaggtcttc aagtatgata ctgaaaagga 8880 gtggtgatag gggcatcttt gccttgttct tgatcttagc aggaaagctt ctagtttgtc 8940 9000 atccataagt atgatgttat atgtagattt ttttatagat attcttgatc aagttaagaa 9060 agtttcccct ctactcccag cttgctgaga gtttttaatc atgaatgggt gttggatgtt actagatgtt tttttctgta tctgttgata tgatcatgtg attattcttg tttagattgt 9120 tgaagtctct aactgtgata gtggattctg tttctccttg cagtttcatc agtttttgcc 9180 tcacatattg gtgctctatt gtgaagcata tacacattaa aggttcttat gtttttttga 9240 9300 ggcattgacc cctttgtcat tgtgtgatgc tcctctttat ccctgataac tttccttggt 9360 ctgaagtgtt ctctgtctga atttaataca gctattctgg gttgcttttg gttagtgtta 9420 acatgatgta ctttcttcat cccttcactt ttaatctata tatgtcttta tatttaaagt gggtttcttg tacacaacat agagttgggt cttgtttttt gaataattct ggcaatgtct 9480 9540 ctctttcagt tggtatattt agaccattta tgtttaaagt gattattgat atattggatt aatatctacc gtatttgtta ctgttttcta ttctttgccc ttattctttg tttctatttt 9600 9660 tgcattctac tctctttttg tcttttgtag ttttaaactg agtattttat atgattccat 9720 tttctctcct ttcttagcat atcagttata cttctttttt ttactttttg tagtggttac 9780 ccttgagttt gcaatataca tttgaaaact atggaatgtt ttatgaattt gtgtatcatc 9840 attgctcaag gggcatgcta gtagtcttct ctgtatcatt ctaattttag tatatgtgct gctgaagtaa gcacttaatg tgctgtaatt ttcttctaaa ggatttctgg cagttcttct 9900 9960 cctttagttg gatataatca atatcagcag cagacactga tgtgaggtga atatgaactc 10020 atgcccctaa gtgctgagtg tcagcttgag tgcttcagga ctggagaaaa tcctcacagt 10080 tctcatcact gactggtatc tgctgcaccc ttgcttttga gtcaggttca tgcccacagg 10140 ctgcttccct aggcccccgc agttttatca ctgtaagttt taaggatttt tcatattccc 10200 agaaattgct tctcttccat cttgagaatt ggcatttcct ctatagggca gggggaacat gtaaacaagc cctcttgtag gagaaggcgg cttagtcaca tttcttaggc taacattgct 10260 10320 cttcctcctt tttgtgtttt taaacagatg tgatgtttac tgggacagca gatggccggg tcgtaaaact tgaaaatggt gaaatagaga ccattgcccg gtttggttcg ggcccttgca 10380 gtaagttggt gataatccct cgatgtgtct cttccagtct ttcagaaaga tgttggatcg 10440 10500 ttgtgtggaa ctgcttttcc ctagaatgcc tgtgggagaa aaagaacctc tgaccatcta gtagatggaa catgacgtca ctacgagctc ttcatttgcc gggtggtcct tgggcctcac 10560 ggtgcctgat ggtcacctac agtccccatt ttgcagctgg gtagtggctg tggcccctgc 10620 ttggtactgc atgggcctcg cccctcacca ttttattggg gtccccgttt acctttgcgg 10680 tacttcagag gctaataggt gttatcacag tgctgctgtg gaaaagtagg tggccttgtc 10740 attacttgga tgtgtaagtg ttattctgcc ttggtctcag gaatttcagc cctgtaagtg 10800 agaataccct taagtcattc aaattttgga aaactagagt agaagactca ctgtttaaaa 10860 ctgatagtct atagacttaa tagttatcat tttttaatag ctggaatgtt tttattaaag 10920 tgatgtattt tcataaacac aaacaacaca aaggtacaaa ggagaaaata aaaatcacct 10980 gagtcttttc agatgtaatt gttatgaaca ttttagtggt tcacttttca gacatctttt 11040 tgttcatgga catgcacacc cacacgtatg atggaattat accctacatc agttctttaa 11100 cctgcctttt tccgtgccat tttggcagta agcaccctgc agtgagcatc ccacagtgaa 11160 caccetgeaa taageatttg cagtgageac ceatggteag cacctaeaat ageacetgga 11220 gtgatcaccc atggtgagca ccctacagta agcacctgca gtgagcaccc cacagtgaac 11280 accetgeagt aageacetae agtgageace tatagtgaae acctgeagtg gtaettgeaa tgagcaccct acagttaatg acccacaaaa gcacctgtag tgagcaccct gcaataagca 11400 cctgtagtga gcaccccaca gtgaacaccc tgcaataagc acctgtagtg agcaccttca 11460 11520 qtqaqqaccc cacagtgaac accttgcaat aagcatctgc agtgaacacc ccacagtgaa ctcctgcag taagccctg cggtgagcac cccacagtga ccaccctgca ataacaccct gcaataagcg cctgcagtga gcactccact tgaacaccct gcagtaagca cctgcagtga 11700 gtacctcaca gtgaacaccc tgcaataagc acctgcagtg agcaccccac agtgaacatc ttgcaataag cccctgtggt gagcacccca cagtgaacac cctgcaataa caccctgcaa 11760 taagcacctg cagtgagcac tccacttgaa caccctgcag taagcacctg cagtgagtac 11820 ctcacagtga acaccctgca ataagcacct gcagtgagca ccccacagtg aacaccttgc 11880 11940 aataagcacc tgcaatgagc accccacagt gaacaccctg caataaccac ctgcagtgag 12000 caccccacag tgaacaccct acaataagca cctgcagtga gcactctaca caaacaccct gcagtaagca cctgtagtga gcaccccaca gtgaacaccc tgcagtaagc acctgcagtg agcaccctgc aataagcacc tgcagtgagt accccacagt gaacaccctg caataagcac 12180 ctgcagtgag cacctcacag tgaacaccct gcaataagca actgtagtga gcaccctgca ataagcacct gcagtgaaca ccccacagtg aacaccctgc agtaagcacc tacagtaagc 12240 accetgeagt gageaceeca caatgaacae ettgeaataa geacetgeag tgageacetg 12360 cagggcagtt gtagctctaa tgccatggtc ttgtcttgtt ctgtacagca tgatgtatgg 12420 gaagggatgg atgagatgct tggatactga gaacagcaca tgtagaatcc gggaccagct 12480 accaatcccc atctgtttgt ttttctagaa acccgagatg atgagcctgt gtgtgggaga 12540 cccctgggta tccgtgcagg gcccaatggg actctctttg tggccgatgc atacaaggga 12600 ctatttgaag taaatccctg gaaacgtatg tgacaatatc tcgtttcctt ctatgaagat 12660 tttagatctt ttaaacaata tatgtatgtg tagacttaat aggatttgtt agcaacagtc 12720 tactaaagac tctgatattt cttattcact gaacagtact gaaaacattg cctgcaaaag 12780 tcagctagtt ttaaacacca gaaaactccc tacccatgat tccatttggt ccgtatccta 12840 atttcctcct agtatttata ttttagccac agggtctcaa aaggacttat tttgaggaag ttagacctct ttctgtcttg atttttctgt gtgtctctct gcgtcttgtc tatttgtttt 12900 ctctctttct tctctgtggc cctccccttt gtctcttcct ttctgttttc tcctgtagtt 12960 13020 cctcctcttc tctcccctga ttgctcatga gtccccttga tcaggctgta atacgtgctg tgtgtctcag tggaggttcc tgctggggag gagtccgttg tcttgtgcgt gggggcccga 13080 acataggccc tgcagcccag ctgcttgggg gcattccact ctgctggcca ccagctgtga 13140 ctgcaggtcc cttagttgct ctctgcccag cttcctcatc aaattggggt catagtagcc 13200 ctgcctgtgg gattgttgcg agggtttaaa ggcgatcaca cctcgagagt gcttagcact 13260 caatccatgt tctttctatt atttttcaaa acttactact acttttcttt tctaaaagga 13320 gatgagtaga atgtcatatt tctctcaaat agaactaaca aatagaactg aagcctgcct 1.3380 aacacttgca gtagatgtta tcaagtcagt tggccttagt aaaagaagga attcctcatc 13440 cttatagaaa agattctgcc tttaatgaaa ttagtctaaa aaaatcattt aacacctaat 13500 actgttttta ctataagaag gaataaatct tctgacaaat gacatggaga agtttcagtt 13560 tttcttttta aatcagttag gttggttaat attttgcaat tattgagaag ttcctagttc 13620 aagtcaatct ttttctttct ttttaaactt caggtgaagt gaaactgctg ctgtcctccg 13680 agacacccat tgaggggaag aacatgtcct ttgtgaatga tcttacagtc actcaggatg 13740 ggaggaagat ttatttcacc gattctagca gcaaatggca aagacgagac tacctgcttc 13800 tggtgatgga gggcacagat gacgggcggt gaggccttgc tccaggtctc ccatttgttg 13860 13920 agttcaccag ccaggccagt tgcttcagca gagcctgtta cttctaggga ccaagggagt atttccagca tcatatttca gcttctagga caggacctta gtggcttctg gaggcaggtg 13980 atggatgtca caaaatggaa caaggtgctt tcgttttctc tgaggaaata aaacaggcca gtccgtctga gggtgcaagt ctaggcagtc gagagagacc ccggagccag gcctgggctt 14100 tgggttgcct ctctgagggg tattcctgtc cagctcccag gtgagcaaga taactgacct 14160 tggggttccc tggaggggac actggatctg ctgtggatgg ggaagggccc ccaggggcca 14220 gcctcgaatc aagtttgagc agggcaccca gggcctgttg ctccgggggtg aggcggagtc 14280 accttcttca ggcccatacc ctgaaggccc agagtgggag ccagggattc tcccccataa 14340 ccctctgctt ttggtgttcc acagcctgct ggagtatgat actgtgacca gggaagtaaa 14400 14460 agttttattg gaccagctgc ggttcccgaa tggagtccag ctgtctcctg cagaagactt tgtcctggtg gcagaaacaa ccatggccag gatacgaagg tgtgtgtggg attagctgag 14520 14580 ccatcagtta ctggccagag cgcatcatgg ccggggtggg gtgggcatgg aaatgggatc 14640 gacagaaatc agaggcagca gcgcaccttc tgcatggcat gttaaagaaa attcaagggt gcgctttctt tctcccattg cgagtcgcag tccggaagag tgtcttaagg ctgactggtg 14700 14760 cageceggge eccatteece tgetggeagg geettggtee teecetgaee taetteecet 14820 ctgttcatac tgggccctgt gcacaaaggt ttcttctcag cagctgagcc tttgttcatg atggtcatag agcactttcc atatatatat ttggaccaag accagtttgg tgcttggcta 14880 aaatttttt tctgaaattg aggggctatg gttcactctc tgcttgggtg aatttttcag 14940

15000 agtctacgtt tctggcctga tgaagggcgg ggctgatctg tttgtggaga acatgcctgg atttccagac aacatccggc ccagcagctc tggggggtac tgggtgggca tgtcgaccat 15060 ccgccctaac cctgggtttt ccatgctgga tttcttatct gagagaccct ggattaaaag 15120 gatgattttt aaggtaactg tgaaaactgt tattccaaga aagaaaatgg aaatgaattg 15180 aatcatattt ttttgaccct tatagcttaa aaatctagtt ctgcttgtag tatttggctc 15240 tgaatgacac ttagaaacac atttcattct tcatcctgaa atgcagattt aaacatttgg 15300 15360 accetttggt tettatggtt tteettttte tgggtgtttt tattgteace eteaceateg tggctttggg catctgcctg cctgtcagtc tctggttccc tgtttctggg tgttttgatt gccaccctca ccatcgtggc tctgggcatc tgcgtgcctg tcagtcttgc tcctccatct gccatggctt tgccaggcct tctgtgctct ccaccccct ctctgcctcc tcagggaaag 15540 15600 agtcggcagg tgccctttcc tcccctccct gcaggtgtgg ccacccctgt aacctagtca ccacagetge categoget getecetget geettettge ageeteactg ccaggeacte ttctctatgg agttctgccc tttgacctct taccacaccc aaatctttcc ctttttaaaa 15720 aaaagtcacc cacccccacc aatggccagc catggcccct tcaacacaac agccccttca 15780 15840 acacagcett taaatettge catttteeca gtggetteea tgaagcacee cacataataa 15900 ctcagcacgt ttacactgtg gaggggtcac ttgctgatgt gggcacttgt gtaatacaga 15960 gatctgcttt tccagcaagc tccgtgtcac aggctgaata ggtattttaa attgatactg 16020 aatatttgaa ccgatatgga aatactagct tatggtcctg gggctgacag gcagcagttg ctgagtcctg ttgctgggct gtgtgtctgg acccctcctg ggggctgcgt gcacattctc 16080 agttagactg gctcacggcc ttcagtgatg tgagttctgt gggtcgctgt gtgggaagtc 16140 ctaatctgtt gagaaatctg tccttctctt tgccttattg gctccagaga cagcatctgt 16200 tcctgctggg acctaggggg aggcaaaatg gcaggtgggc tagcacaggg gttttggagg 16260 ctgccagacc agctgtggga tcctgggccg gggacttgga ctcgctgcct caggtgctct 16320 gtctgtaaag tggaaagaat aatagtgcct catcaggtgc tgggaacatt tagtgagaat 16380 ctgcacatag tgcccttagc gtagggtagt atgagtggtg gttgtgtctc ttcccctgaa 16440 16500 tagaatgtgc ataccatcag agcaggtgtt tttctgttta gttcatgcat agttcatttg tcatcctcca cacctgcaac agtgcctggc acatgtaggt gcgaggacgt accgttgatt 16560 gagggcacag ttagggaggg ggctgcaagc atgagggaac atggagtctt cctgcagctg 16620 ggtgaggagg ggtgagaggg aggaccacag ccccatggac ttggaaagaa ggttcagttt 16680 16740 tattcaaaat gtaatccaag tcattgaaga tttttttgtt ttttgttttt gagacggagc 16800 ctcgccctgt cacccaggat ggagtgcagt ggcgtgatct cggctcactg caacctctgc ctcctgggct caagtgattc tcctgcctca gcctcctgac tagctgggac tacaggtgtg 16860 taccaccacg cttggctaat tttttgtatt tttaatagag acgagttttc accatgttgg 16920 ccaggctggt ctcgaacgcc tgacctcaag taatccaccc gtctcagcct cccaaagttc 16980 tgggattaca agcgtgagcc accatgcccg gcctgatttt tttcttttt taatttcgag 17040 gcagtatcaa agctgtggaa agagggaggg tacaagggat ttttttccca gcactgtttc 17100 cgagttagcg gctggcctaa tgccctgtca ctcactgcag atgcctgagc atgtgtttgg 17160 cacattetee tteattacea etgagtgaaa ecaggagatg eccaeagete eeetgtgaet 17220 gtccggtctg caggccccat tcagattttg ccagttgtcc cggtgttgtc ctttataaca 17280 aatgattcaa cccaggatca ggagtggtgt ttagttgtca gctgtttaat ctccttcagt 17340 ctgggggata ttcagctcct gtctttttt gaatttttgg ccttgatcct ttgaaagcgt 17400 acaggtcagc tgtgtcccag aatgtccctc cagtagggtt tgtttttcat atttagattc 17460 tgctctcgca tcgttggcag cagtggcgca gcagtgaagc tgtgctcatc ttggcgcggc 17520 17580 tgtcatgagg gcgcgatacc agtttgctct gttggggtgg tggcaacttt ggccacctga ttcaggcagg gaatgccagg tgtctccacc tggacgtggt tctttcatgt ctaattactg 17640 agttgctcgc agagaggtgg tttttgtaag taatcaccag tgccatctta tggtttccca 17700 tgttcttaat ggtgattatg ttacagtcat cattgatttt gatgctcaaa ttacccatct 17760 gtggccagga ggagcccctt cagtgtggct tctgggcctt tgggcatgtc ctcttgtctt 17820 gggctagctc ctcactttcc agcacataag tcgttccagt ttcctcttgt attgtccctg 17880 cttcagctct gcaatcggcc atttctccca ggagccctgg ttccttgtgg aggagatctg 17940 ggtgctgagt gtactcgctg ctttgggtgt cgctgctccc aggtccctaa gggacaacgc 18000 tgggagtaca agcacacgat gcatactcac atatacctgc acgcgtagac atcacacaca 18060 cacaccactc acgcttatgc ctgcatctgt catctgtaaa ttgaaaacca tgacaacacc 18120 acaggactga tccaagtttt ctccccttat ttttccccct atttgtacct ctccaacagt 18180 gagaaacctg gatcccattg tcctccctag gtttacctgt tcaaccattt tctgtgcatg 18240 tgaccaatct gtggttgctg tgccctgtca catggcccca tccagggctg tagcacccca 18300 tgctgggctg tccccttcct ccctgaccat gtgctggagg ctgcctttcg cctcaagggc 18360 tgtgatccct gcaccgggct gtccctgggt gtacacctcc tcacttgcat gggctctcac 18420 agcctgatct gggcctcact gtggggacac ctcctcaccc cgtgtgggcc ctgacagccc 18480 gtgccaggcc actcccctgc agggacacct cctcacccaa gcggagtggg cttgtctggg 18540 tcaccatggt ctgccatccc ctgcacacat gtaccctgct cagccccatg ctcctgatgg 18600

```
agttgtttag gaggggagtg atgtagtaca aagaatgttt ttaaagagaa ctgcagctac
                                                                   18660
                                                                   18720
tgcaaggaga acagcttgca gcagggctca gctggctgtg ggagcctgtg tggaagctgt
ctcagtgact ggggagaggc ggcagggcag ggcccaggcc agggacacac acaacagatg
                                                                   18780
gcaagactgg cagctgggct tgtagggcac agagagactg ggatcaaggg aaggctgggg
                                                                   18840
tcctggccct gtctccagag ctggggaggc tgttgaattt gaagtgctat tagaaaggcc
aggcagacat gggtcccaga cagtgagaaa cttagcactg gtgttggaga tggcgatttg
agagctttct gggaaagtga ctagttgtaa tagtgagaga ggatgagatc tcttaggggg
aagagagaag agaggagagt gggaaggatc cacggccgaa cagcaggaga tggcatttcc
                                                                   19140
taggtagtgg gaagccttgg gaattttttg agctgtaatg cagttgatct atcgctgttg
                                                                   19200
aacctagagt ctagtcagct tgtctgtctg cttgaacatt tccagtgact gggagacatt
                                                                   19260
attcgttgga cacttgtttg ggtattttcc cttgtattaa aagctagaaa tctgtctgtt
                                                                   19320
aatttccatt ccttggtctt aggcagtgga gtgctttgtc ataatttccg accaggtgtc
                                                                   19380
cttctgctct gccagaaatc acgcctctcg ccatctgttc tctgcttaat actcttcaac
agtcccgtgt gaccacagag tccaggtcta agctcttttg cctccgtccc tgtaggcgtc
                                                                   19440
cctcaggatc tgcacgcccc gctttgagga aagcagtggg attttgcttt ttgttttgga
                                                                   19500
agccatgttg tgtggtctgt ggacctgctt gctttttttg aatgtgagct gctctcaaat
                                                                   19560
ctccatcatt tgcaccttgc ctatttgaaa tgttttaaat ctaaacagaa gacttgtgta
                                                                   19620
                                                                   19680
ttccagggaa gctgcgctgg ttgtgatctg gtgagtggag gtcattctga gccttggctg
cagtgctgtg accacgtcgg atgtgatatg tctctctcag ttcagccagg ccatccagag
                                                                   19740
atgtgcttgc gttgctgtcc ttgtgctggg gagcctcttt ggcctgatct tcacagggac
                                                                   19800
aggggtgggg tggggcctgc tttggggccc ctgggctggg agtgggagct ggattagctg
                                                                   19860
tcctgtgggg cactgccctg tggggctgcc ctgtcatggg aaggagtcag accgttcctg
                                                                   19920
gatggtgggg gcggcacggt tgatctgcgc acagtgttct tggccagctg gtgaactttc
                                                                   19980
cctgcactgt gcttccctct agctctttag tcaagagacg gtgatgaagt ttgtgccgcg
                                                                   20040
gtacagcctc gtcctagaac tcagcgacag cggtgccttc cggagaagcc tgcatgatcc
                                                                    20100
cgatgggctg gtggccacct acatcagcga ggtgcacgaa cacgatgggc acctgtacct
                                                                    20160
gggctctttc aggtccccct tcctctgcag actcagcctc caggctgttt agccctccca
                                                                    20220
gatagctgcc cctgccacgc aggccaggag tcttcacact caggcaccag gcctggtcca
                                                                    20280
ggaggagctg tggacacagt cgtggttcaa gtgtccacat gcacctgtta gtccctgaga
                                                                    20340
ggtggtggga atggctgctt cattcctcga ggatgcccgg gccccacctg ggcttgtctt
                                                                    20400
                                                                    20460
tctgtttaga gggaagtgta acatatctgc catgaggaac ataaattcat gtaaagccat
                                                                    20520
tttctcttaa acaaaacaaa actttctaag tacagtcatt ctctaggatt tgggaagctc
                                                                    20580
cttgcacttg gaacagggct caggtgggtg gagcagtaag gcactaccca gagagcttgc
                                                                    20640
tgctgcggcc ctgtcctgcg gcctcaaagt tcttctttac tatataaac gtgcggtcat
acctttcttc gttgtggtgg ggatggaaga gcagagggag catggcccag gggtgttgag
                                                                    20700
gccagcggtg agagccgtgt tagccaagac atggaactgt gttctcaagg gttatgtggg
                                                                    20760
                                                                    20820
gcgtgggctc tccatagtgt gtatgaaaag cttgttgact ctagcggctc agagaggact
                                                                    20880
ttgctgggtt tctttctgtg aatatctccg tgctgaccat gctggaattg gatgattctg
caattcggga cctactgcag gggtccgttt agtaacgtct tgtctgtgat ctttgttctt
                                                                    20940
                                                                    21000
gacctctaga ccccaagatg tgaacagtgc acgtgttaat gtcatctttg ctcatgtgtt
ataagcccca agttgctgta tattttcaca agtatgtcta cacactggtc atgattttga
                                                                    21060
                                                                    21100
taataaataa cgataaatcg acttctgctg attaaccttt
<210> 12972
<211> 895
<212> DNA
<213> Homo sapiens
<400> 12972
                                                                       60
taatggagaa aagagaagct ttctcattaa ggtaaggaac aagacaagga tgtcccctct
                                                                      120
caccactttt tttcaacatt atacaggaag tcctagctaa tgttataaga caaagaaaag
aaaaggtata aagattggga aggaagaaat aaaaatgtct gtttacagag gacatgataa
                                                                      180
                                                                      240
tatacgtaga aaatccaaaa gaattgacaa caaaactcct gaaagttttt ttagtcctta
                                                                      300
ttagtcaatt agcaaggttg aaggatacaa ggttaataca caaaagccaa tcacttttct
                                                                      360
atatggcatc aacaaatgaa actagaagtt aaaaacacat tgccatttac attagcacct
```

aaaagaatga atacttatat atatatacac atatatatgg acctatatac ttatagctat

aaagctaaca aaacatgcaa tatctgtgca aggaaaacta caaaaatccg atgaaagaaa

taaaaaacaa atgagagata atccacattc atggatagga aggctcaata ttgtcaagat

gtcagttttt ttcccaactt gatctataga ttcaacacaa tcccaatcaa aatccaaaca

agttgttttg tggatgtttt agtccatttt tgcatcacta taaaggaata tctgaggctg

420

480

540

600

660

```
ggtaatttat aaagaaaaaa aggtttaatt ggctcacagt cctgcaggct gtactggaag
                                                                      720
                                                                      780
catggtgccg gcatctgcct ggcttctggt gaggcctcag ggagctttta ctcatggcag
                                                                      840
acaatgaagt gggagcaggt acctcacatg gcaagagcag aagcaagaga gtgagggagg
                                                                      895
aggtgccaca cacttttaaa cagccagatc tcgtgagagc tcactcatta ttgca
<210> 12973
<211> 380
<212> DNA
<213> Homo sapiens
<400> 12973
agttataatg ttgaaaaatg aaatatcaaa ttgtcaaaaa tataaataga aggaaaaata
                                                                       60
                                                                      120
ctgaagacaa ttaactagct ttctaaaaat tatttttgaa ttagtgattt ttgagtgaga
tgggggtctc acttcatcac ctaggctggt ctcaaaccac tgggctcaac tgatttttcc
                                                                      180
acctcagctt cccatagttc tcggactata gaggtgagca accattcctg gcggagaaag
                                                                      240
                                                                      300
catttcttat ttctgaacag acatttatgt gctccatggt agtaaatgca tagattttat
ttatcctcac aacaacaata aaaggagcaa gaacagttat ggaaaatttt agccagaaaa
                                                                      360
                                                                      380
tatatctcaa aatcttctag
<210> 12974
<211> 227
<212> DNA
<213> Homo sapiens
<400> 12974
                                                                       60
gaagaggcaa aagccccata atagcctaca caatattgaa ggagaaaaac aaagaggact
                                                                      120
cacaccatcc aacttcaaga cttactgtaa agctacagca atcaagccag tgtggtgttg
gtgaaagaaa gacaaaccag attaatgaac tagattagag agcccagaaa tagactcaca
                                                                      180
                                                                      227
taaatatagt caagtgacct tttgtcaaag gagcaaaaat aatagaa
<210> 12975
<211> 4371
<212> DNA
<213> Homo sapiens
<400> 12975
gtcgcgtgga gctgccgggc gagcaccgtt agggcagcct ggcgcgcggc gcccgccagg
                                                                       60
                                                                      120
cgcccagtcc tctgccatcg cccacgcctc cctggtgcca gggaacaggt atcagcgcgc
                                                                      180
ctccccagcg gctgggagag acgctgaatg aagaagaggg aaggacggtt agtcaggtga
                                                                      240
gccgcggcgg ggtgggcggc cggggcggcc acgccctgcc gagggagaag agccggtcgt
gtgcggaggg acagggtgaa gggatcccac ttcggggagg atgggcttat cccggcgggc
                                                                      300
gcgccaggtg ggatctctag cgcctcaggg gcccgcgcgg caacagccgg caccctcggg
                                                                      360
                                                                      420
cccgcggaca aagggttaac gcgttggcag tgactgcggg ccccggatgt gagagccttg
                                                                      480
gcttgacgcc ctggctgcgc tgcaggtgcg ccgggccgaa cggagccggc agcctggcgg
                                                                      540
cgacctgacc gcccgaggct ccccttcacc tgcagcggct gctcggctcc ctctgggaac
                                                                      600
gccgcctttt ctaacttaag ggcaacaggt ggtgccggtg gaccgagaga gagctcagct
ccgccgcgct gggagcggca gttaccctca ccaattaggg agcgggggcg ggagttgcat
                                                                      660
                                                                      720
ggcttccctg atgcgggtga ccaatgggat ttgggatcat gagtggaccg ggaggagtgg
gcgtggtcgg agtctgagtc caaggtttct cgtgcggcaa ctgccagagc tgcttggaga
                                                                      780
                                                                      840
gctaagctgg aagggtgctt atccctgcgt agaaacgcct gccaatgctt tctcatttgg
acccagactc cagatcggga ggtgagaacg ttgttatttt gcaaggggta ggaggtaata
                                                                      900
gtgatcttgg gtatgctgtt aagcatgtgg aattagattc cgaagatagg actatctgct
                                                                      960
                                                                     1020
atgagttttc tgccagatag gcactttgtg gttacggcca cttagaccag atactggtga
                                                                     1080
ctgggttctt tccagaatga ggtctttgag gtttggggac ccaggagaaa aacgtacata
ttactgcaat ttaagtaaac cagataattt caatcactgt tattccatcg tttgtcttgg
                                                                     1140
                                                                     1200
actgtgtgtg ttttcatgta cgtttcatat ctcgtctggt ttgtttagcg cagcaagtta
tagtaagttc ttcgtgttgt ttattttagc aaagtagagc aaacctgttt taatgtatta
                                                                     1260
tttcgggaga ataacttatt ccttcttccg tctcccagca gtcttatagc tggatcagct
                                                                      1320
```

```
accaagagaa gttgtaaacc aagaagagaa aagcatttca atttgggaca tttatttgca
                                                                     1380
                                                                     1440
cctggaaatg gggaatgggc tgtcagacca gacttctatc ctgtccaacc tgccttcatt
tcagtctttc cacattgtta ttctgggttt ggactgtgct ggaaagacaa ctgtcttata
                                                                     1500
                                                                    1560
caggctgcag ttcaatgaat ttgtaaatac cgtacctacc aaaggattta acactgagaa
                                                                     1620
aattaaggta accttgggaa attctaaaac agtcactttt cacttctggg atgtaggtgg
                                                                     1680
tcaqqaqaaa ttaaggccac tgtggaagtc atataccaga tgcacagatg gcattgtatt
                                                                     1740
tgttgtggac tctgttgatg tcgaaaggat ggaagaagcc aaaactgaac ttcacaaaat
aactaggata tcagaaaatc agggagtccc tgtacttata gttgctaaca aacaagattt
                                                                     1800
gaggaactca ttgtcacttt cagaaattga gaaattgtta gcaatgggtg aactgagctc
                                                                     1860
                                                                     1920
atcaactcct tggcatttgc agcctacctg tgcaatcata ggagatggcc taaaggaagg
acttgagaaa ctacatgata tgatcattaa aagaagaaaa atgttgcggc aacagaaaaa
                                                                     1980
gaaaagatga atatcaatac ctattatatc tgtgtggagt aggttttctc tggtctgatt
                                                                     2040
ttgacaaata gaagagtgtc tacagcgtgg tttgcctgtc tgccctcctg gatgctatta
                                                                     2100
                                                                     2160
aagctttgtt ttgttgaaca atcagatgcc caactctgtt gccttgtgga agatgagtaa
atgcagtgct tcttaaagtg gtctcttctc cctaccccac aaatcttttg gtactaccat
                                                                     2220
ttggggaagc caagcaagga tagtaaattg accagaacac agttgtggga atttggtctg
                                                                     2280
aagttagtga aataaaactt taaagagtgt ctgcctagtg ttttgtgctt acatctttcg
gggggaagcc tttgcaagaa aattgcatac aaggctttgt aacgatcaag tgctaatcga
                                                                     2400
                                                                     2460
tggaaatgtt aaggtagatt aacatatatg cagttatatt gatcacattg gtccaaccag
tccttttttg aagtaaggga caaggagtaa gtattttctt ttttaagttt ctgccaaatg
                                                                     2520
                                                                     2580
atttttgacg ctttctggaa tcaagtaatt taatagtata gcttaattct agacaatgtt
taagttggtc tacctttatt aaaaataaga tatttggggt atattcaagt gcatggatta
                                                                     2640
gttttcctga caaagcatgt tttggtgtgt agtcttactt tttagaaata gctatgcatc
                                                                     2700
                                                                     2760
gttctacaca ggtttaaaac aacttttttg gggatttagg gctattatag gaatagtttg
                                                                     2820
ttgtcagaag cactttcact tgaagaacct aaaatgattg actcattcat agtaaatatg
                                                                     2880
qqcatqtaaa ctaataaata tgcactggat acatatatgg atttatgaag aaggcgattt
                                                                     2940
agtcaagagg atgtaattaa aatatgtggt ctctaaaata ttccagttac aagatatttg
                                                                     3000
ttttattaat atttgctggc taaaaacaaa tgtggttttt atatattttt gtagtgtgtt
                                                                     3060
gagaagagca aaagctttat aaatatacct gatgcgctgt agaatgaaaa tgtaaaagat
aacctgtatg tgttccgagc tttaattttt tgtttacaaa ttgaacagtg ttacatgggc
                                                                     3120
tgtccagtcc tgattataga gaggaagaaa tggtaacagt atggcagata agaattacaa
                                                                     3180
ttatagaaaa tgaggggaaa ataacaaacc tgttttatga aaattcactg gtgctgttta
                                                                     3240
cattggaata aaaagctcta taaggaggaa aggcctttat ctaattctta tctacagaca
                                                                     3300
cttacttcca gtgaccatat tttactaaat cagcttattt tttatgtcta aagcaacagc
                                                                     3360
tgttctgaaa aatcaccaaa agaaatgcac tttgctagca ggatttgttt tggctttggg
                                                                     3420
ttttgttttt ttgtttttt tttttttcag tggcataaca gtttttggaa ccttgattct
                                                                     3480
                                                                     3540
tgtgtcacac aaaatgaatg aagtagcttg atgtggagcc ttcatatgtt aaatattcct
                                                                     3600
gcactagtga tggtcactta gaatgtttat agaaatgtgg ataataacta ccaataaact
acttgaggca ctaggagaac agtatttgac tttgaatttt aatgtatttc cacttttgct
                                                                     3660
                                                                     3720
gaagctttta atcagatgtg taaaaacaat tgaccagcta ggctatttag tcccatagta
                                                                     3780
gttcagatct gcttagatgt gacaggcatt gaaggctgtt ttttttttt tctcccttca
ctgatactga aatcatggta tctgctgcaa acatgagtag atccatgatg gattaataaa
                                                                     3840
gcttgctgaa aaaaaaaatc tgtgtatcaa ttagatttac cagtttgcct gtactttctg
                                                                     3900
tctacctact atgtaaaata gtgctgtttt taagtatttc aaaagcttgt gtgttgaccc
                                                                     3960
tttgtagcct aagtacgtaa acaaattaat gttatctaag tttttcatat ttcatggaca
                                                                     4020
acaaaagaga aaatggtatg aacactgtac aaactttgat ttataaaaga caatttcagc
                                                                     4080
                                                                     4140
tataaaaccc atcctaagat tttctagctt gctaagttca agttccctac cgcctattct
agttattaac actgtagtat aatgagtctt taaattctga agagtttaga ctatgctttc
                                                                     4200
                                                                     4260
atatctagtt tcttcttatg gcgcaccttt tctagtgcat agttctaaaa tattttcttg
tatttgaagt tacttggttt aatacaaaat attaaggact gctcaactga atccaagtta
                                                                     4320
atatcaaaga acaaagtgta agaaaaataa aaccttttga tagttaaaga t
                                                                     4371
```

```
<210> 12976
```

<211> 1903

<212> DNA

<213> Homo sapiens

<400> 12976

tgaagtaagg gacaaggagt aagtattttc ttttttaagt ttctgccaaa tgatttttga 60 cgctttctgg aatcaagtaa tttaatagta tagcttaatt ctagacaatg tttaagttgg 120

```
180
tctaccttta ttaaaaataa gatatttggg gtatattcaa gtgcatggat tagttttcct
gacaaagcat gttttggtgt gtagtcttac tttttagaaa tagctatgca tcgttctaca
                                                                      240
caggtttaaa acaacttttt tggggattta gggctattat aggaatagtt tgttgtcaga
                                                                      300
agcactttca cttgaagaac ctaaaatgat tgactcattc atagtaaata tgggcatgta
                                                                      360
aactaataaa tatgcactgg atacatatat ggatttatga agaaggcgat ttagtcaaga
                                                                      420
ggatgtaatt aaaatatgtg gtctctaaaa tattccagtt acaagatatt tgttttatta
                                                                      480
                                                                      540
atatttgctg gctaaaaaca aatgtggttt ttatatattt ttgtagtgtg ttgagaagag
                                                                      600
caaaagcttt ataaatatac ctgatgcgct gtagaatgaa aatgtaaaag ataacctgta
                                                                      660
tgtgttccga gctttaattt tttgtttaca aattgaacag tgttacatgg gctgtccagt
cctgattata gagaggaaga aatggtaaca gtatggcaga taagaattac aattatagaa
                                                                      720
aatgagggga aaataacaaa cctgttttat gaaaattcac tggtgctgtt tacattggaa
                                                                      780
                                                                      840
taaaaagctc tataaggagg aaaggccttt atctaattct tatctacaga cacttacttc
                                                                      900
caqtqaccat attttactaa atcagcttat tttttatgtc taaagcaaca gctgttctga
                                                                      960
aaaatcacca aaagaaatgc actttgctag caggatttgt tttggctttg ggttttgttt
                                                                     1020
ttttgttttt ttttttttc agtggcataa cagtttttgg aaccttgatt cttgtgtcac
                                                                     1080
acaaaatgaa tgaagtagct tgatgtggag ccttcatatg ttaaatattc ctgcactagt
gatggtcact tagaatgttt atagaaatgt ggataataac taccaataaa ctacttgagg
                                                                     1140
                                                                     1200
cactaggaga acagtatttg actttgaatt ttaatgtatt tccacttttg ctgaagcttt
taatcagatg tgtaaaaaca attgaccagc taggctattt agtcccatag tagttcagat
                                                                     1260
ctgcttagat gtgacaggca ttgaaggctg ttttttttt tttctccctt cactgatact
                                                                     1320
gaaatcatgg tatctgctgc aaacatgagt agatccatga tggattaata aagcttgctg
                                                                     1380
aaaaaaaaaa tctgtgtatc aattagattt accagtttgc ctgtactttc tgtctaccta
                                                                     1440
ctatgtaaaa tagtgctgtt tttaagtatt tcaaaagctt gtgtgttgac cctttgtagc
                                                                     1500
ctaagtacgt aaacaaatta atgttatcta agtttttcat atttcatgga caacaaaaga
                                                                     1560
gaaaatggta tgaacactgt acaaactttg atttataaaa gacaatttca gctataaaac
                                                                     1620
ccatcctaag attttctagc ttgctaagtt caagttccct accgcctatt ctagttatta
                                                                     1680
acactgtagt ataatgagtc tttaaattct gaagagttta gactatgctt tcatatctag
                                                                     1740
tttcttctta tggcgcacct tttctagtgc atagttctaa aatattttct tgtatttgaa
                                                                     1800
gttacttggt ttaatacaaa atattaagga ctgctcaact gaatccaagt taatatcaaa
                                                                     1860
gaacaaagtg taagaaaaat aaaacctttt gatagttaaa gat
                                                                     1903
<210> 12977
<211> 310
<212> DNA
<213> Homo sapiens
<400> 12977
tcagtgttca aatcctggct ctcccgttat tacacatgaa cctttagcaa attccttgaa
                                                                       60
acttatgatg agaatgccct cctggttaaa tgaagactgt ttcatagaat tttgagagtg
                                                                      120
ttgaaataac atgtacaaac tttcacatat tgccaagcat ttgataaaaa ctgacctact
                                                                      180
attgttaacc agtaggaatc aatatgttta ttatttcatc tggggcaatt tacttgcagc
                                                                      240
cttagtttct taatttgtaa agtgtgggtt atatatatct accactgggg tataactgat
                                                                      300
                                                                      310
taaaaggatt
<210> 12978
<211> 209
<212> DNA
<213> Homo sapiens
<400> 12978
gcgaaaacca ccaccattaa cactgaagat gtgaagctct tagccagaag gagtaattca
                                                                       60
ccgctaaaat acattcagac aaaagtgaag agcttgcgca gattaaccta gaacgaaagg
                                                                      120
                                                                      180
cacagaagac aaagaagag atggaaacaa aaatgcaagg gagccagcag aggctggagt
                                                                      209
acaggaaagt taagaattaa actctcccg
<210> 12979
<211> 310
<212> DNA
```

<213> Homo sapiens

<400> 12979					
tcagtgttca aatcctggct	ctcccgttat	tacacatgaa	cctttagcaa	attccttgaa	60
acttatgatg agaatgccct	cctggttaaa	tgaagactgt	ttcatagaat	tttgagagtg	120
ttgaaataac atgtacaaac	tttcacatat	tgccaagcat	ttgataaaaa	ctgacctact	180
attgttaacc agtaggaatc	aatatgttta	ttatttcatc	tggggcaatt	tacttgcagc	240
cttagtttct taatttgtaa	agtgtgggtt	atatatatct	accactgggg	tataactgat	300
taaaaggatt					310
<210> 12980					
<211> 12638					
<212> DNA					
<213> Homo sapiens					
<400> 12980					
ggggcttctg gaggcggcgg	caataaccaa	cacaacaaca	ccaaccatat	tctccgaact	60
gcggagggta aagagcgggc	tcaaaccaaa	actagaagac	tagatagaac	cagageggeg	120
cttcggggc ccgcggagga	casaaasaaa	agagaatctg	aggagctggt	aggtttgggg	180
accatctgg gtgaccgggc	caaaaaaaaa	actcaaccaa	acatacaaaa	ggcgtagcgg	240
cccaggat gctggagcgg	agcettaggg	atgggcaagg	ccttgggggc	ggggggaggt	300
tctgcaaagg gagccactgg	ggtctgccta	ggggcttgtg	cggagattgc	gggcgagaag	360
gggcagagga cggtggagga	gactcagatg	gggccctttt	tggcggcccg	ttttgggggg	420
taggggagac ggcggttggg	ggactttgat	acatggagcg	tggaggaaga	ggttaatctt	480
gcgaggacag tggaggtcag	cgggggaggg	aggcaaagtg	ggctttcagg	agcgtggaag	540
gcgtcgtccg gttcttggaa	aattcagaat	tggagggagt	cagagatggt	tgggggtggg	600
cgggggtgtt ccatcgatga	gggtcttaag	agacctgccg	agggcaagga	ccaggagggg	660
ttaaggtagt aacttgggaa	ttttgatcgg	aatggcagca	ctttgggagg	cctgggacga	720
tcgcttgagc cttggagttc	caggctgcag	tgagccatga	ttgcaccact	gcactccagc	780
cagggcgaca gagcgagact	ccttctcaaa	aaacaacaac	accaacaaca	aaagaagtag	840
acttgagaac ttcgttaaga	cattggccag	ggagtaaggt	agccctggga	tttgaggttg	900
aggagaacgt gcaggaatgg	tgggggattt	tggctgagca	ggttgagaga	agtctaggag	960
tgagaggcaa aaaaagacgc	aggcagcgtc	ggggaaatca	gaattatgtg	tctggagaga	1020
gttttgcggg gtgaaggtgg	cccagtgggg	ctgttaccaa	acttttgagt	ggttatgggg	1080
ctctaagagg tgacatgaca	ggacccagcc	cagtaaacac	agcacctctt	tttgtcgagt	1140
ttggagcttc agagtggaga	ggtgggaggc	ttgtgtttgc	tggacaggtc	tgtccattaa	1200
tctaggagaa aagggtggtg	tctcagttcc	tcacttctgt	ctttccctgt	cttctccagg	1260
gttgccatta ggggactcct	gaggtcctat	ctccaggctg	cggtgactgc	actttccctg	1320
gagtggaagc tgctggaagg	cggaccggcc	gccatgtcca	cgttcaggca	ggaggacgtg	1380
gaggaccatt atgagatggg	ggaggagctg	ggcaggtgag	ctgtctgccc	gcacggctgg	1440
gctccaggga taggagagag	gcgctgtggg	gttttctgaa	cagcagctct	cctttcctgt	1500 1560
tctttatcct gtatgctgag	aaggaatgag	tcagtatcat	gcggtggggg	aacgaatttg	1620
ggccgtggag tcagacagcc	ccggctgtga	attectgett	gggaateete	agatagaaga	1680
ctgtggggag aaaagtaatt	gageegttae	agcagccaag	accordects	gcatggggca	1740
ccagagcaac agatgccagc	generation	accadadac	gigiciticig	gatataataa	1800
atagcaagac tccatcccta	Caaaaaaaaa	aaatyaaaaa	gaggatgggt	taaacccaaa	1860
ctcatgcctg tagtcccagc	: tactayyyaa	gccgagacgg	actatagact	radcaacada	1920
agttggagga ggctgcagtg gtgaaacccc atttatttaa	agetatyate	atctccctgt	actgtageet	ttttataaaa	1980
ggcactttag tttttttgcc	aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	atotteeege	tagagagaga	asaaaacata	2040
tctcccagct gggcccaaac	cagettetgg ctccctcaat	tatttaacat	acttatagaa	aaaagcagag	2100
gtttcctctt ccagggaggc	. acctgatttc	ctacctatct	gggccttgga	agateceet	2160
ggggcccac ccctccaga	ctagecagge	accactagge	cctqcctcct	tttgtagagc	2220
ctccagcctt atttggtgag	tttgctactg	gccagcctcc	ctggagcctc	cccatgatgt	2280
caccagaagg gaatgtaaat	aagtgagctc	tgtqtcaqqc	tagggagagt	gctgcaggct	2340
cttttgggat cctgaggtco	ctccttcagg	aatttcctcq	ttagtggcag	agaaagcatg	2400
ctcctcctc cccttctca	tacttcaata	ttgacccctc	ctgctagggg	tcgtttggca	2460
aaagtcagca aaattcagco	aaatttcttt	taactcgccg	atttcacctc	taggaattaa	2520
ttcattggaa aactgtacat	acatggatgg	aatgacttaa	gactggggta	gttgctagaa	2580
cgtttaccag aataacagco	: ttttttttt	ttccttgaca	ctatctcatt	ctgtcgccca	2640

ggctggagtg cagtgatgcg atctcgactc attgcagcct cggcctccag cctagcctcc 2700 2760 cgagtagctg ggattacagg agcccgccac cacccctggc taatttttgt atttttagta 2820 gagacaggat ttcaccatgt tggccaggct ggtctcgaac tactgacctc aggtgattca 2880 cctgcctcgg cctcccaaag tgctgggatc acaggcgtga gccaccgcac cccgctggga 2940 acagcagcct cttaaatggc cttccccaaa ccactgcatc agggctggaa taggatgcag 3000 cttgtaaaaa gaaccaggca gggccaggtg cggcggcttc cgcctgtaat tctagcgctt 3060 tgggaggcca aggcgggagg atcgcttgag cccaggactt caagactagc ctgggcaaca taagttgacc cccatctctc aaacaaacag aaattcataa ttttaaaaaa agtatttagc 3120 cttctgtttt tgccgtgaag ccttggaggt ctggtgtgta tttcatgtcg cagtttttct 3180 cgggactggc cacacctcac gggtttgaca gctctgggtg gccagtgtct gctgttctga 3240 cggcactgct tcaggtagtg gtctggaaca ttctcagaga tacatgaagt gcaagatgaa 3300 3360 ggcccagaat gtagcaattt ttgtttgttt gtttgagacg gtgtctggct ctgttgccga gactggagtg cagtggtgcc atcttggctc actgcaatct tcgcctcccg ggttcaagtg 3420 3480 attctcctgc ttcagccttc caagtagctg gaattacagg cgcccaccaa cgtgctcagc taatttttgt atttttagta gagacggggt tttgccatgt tggccaggct ggtcttgaac 3540 tcctgacctc aaatgatctg cccgcctctg cctcccaaag tgctgggatt acaggtgtga 3600 3660 gccactgtgc ctggcccag cccacacttt ttttttgaga cggagtcttg cagtgtcgcc cgggctggag tgcaatgccg caatctcagc tcactgcaac ctccgtctcc caggttcaag 3720 3780 cgattctcct tgcctcagcc tcccgagtag ctgggattat agatgcctgc cagcacgccc 3840 ggctaatgtt titgtattit tagtagagac gtggctttca ctatgttggt caggctagtc 3900 ttgaactcct gacatcgtga tctgcacgct tttgcctccc aaagtgctgg gattacaggc gtgagccact gtgcccggct tcccagcccg catttttaaa catcatgaac tctatcagta 3960 4020 gaaattgtcg gtgtgtaggc cacgcttggg tcgtgtctgg gttgtggcag gcacttagga 4080 agtgggttgg gagtgacacc tgagaccatc actgaggagg gcttgctgtg ccccacctg 4140 cgctgggggc tggggaagtt acagagaagc gaagagggtg ggctcagctc ttggggagtt 4200 tctttcccgg ctggggagat gaggcacgtt tcacattccg tagaggaact gagagcctgc cagtggcctt gcctctaagg agcaagtctg tggccagtga gaccgggggc tgtctggagg 4260 4320 tgggcggctg tggtctgctg ttgctgtagg aggactcagt ggcagaacct gaaatctggt 4380 tggcaatagc aaaacaggga aaggcgtggt ttacagaacc aggttgtcca ggtgtgcagc ggccgcaggt gtgactgggt gctggtgcat atggtgccct gtgtccccgg ggccgaagtc 4440 4500 cactccagca tggaggaggc gccctggcag agtgaatgac ggggcttatg tgccacccgc agtgcctggt ggctcccctc tcctggcctg gtctgttctt aggcaggctt cttaggtagc 4560 cttctacgtg gtggcccctg ccgcgagcct ggatccaagc ccagcagagg gagagagaga 4620 tcctctctc ccagcaggcg ttcagagccc tgtggactgg accggtctct ttgggctgga 4680 aggegtggtt ttctgcttgc ccaggtccag tcgtgtcccc ttccacccct ttcctgggcc 4740 actgagtccc acagactgag agtgagcggc aaaggctgcc ctgggacagc tgggtctgtt 4800 4860 agcaggagac agcgtggagc cgggaggtag gcacgcagga acccggtacc cagcagcagc tgtctgcttc ctgttagagc acctgggctc tggagcctgc agcacctggt ttgaaggttt 4920 gaatcctccc gccactgact gactgcatga ccttgggcta gttgctttcc ttttctcagc 4980 cttggtttct ttaaaatgcg gatactggcc agatgtagcg gctccacctg tactgccaac 5040 5100 acttggggtg ggggagtggg aggatetett gaggeeagga gttecaaage ageetgggea atacggcaag accetgtete tacaaaaaat aaataaatea ggtgtggtag tgtgtteetg 5160 tagtcccacc tacttgggag ggatcacttg agcccaggag ttcgagacca gcgtgggcaa 5220 5280 catagtgaga cctcatcctt acaaaaagaa aaaaaaatta attgggtgtg gtggtatgtg cctgtagtcc cagctgcttg agaggctgag gcaggaggat tgcccgagcc caggaggtca 5340 aggctgcagt gagccatgac tgaaccactg cattccagcc tgagcaacag ggccagaccc 5400 tgtctcaaga caaaacaaaa caaaaacaaa aaaagcggat ctggcacttg ccttgcactt 5460 5520 tttatttttt tgaggcagga tcttgctacg ttgcccaggc tggagtacag tggcacaatc tcagttcact gcaacctctg cctcccaggt tcaagcgatt ctcctgcctc agcctcccaa 5580 gtagctggga ttacaggcac ccgccaccac acccagctaa ttttttgtat ttttggtaga 5640 gacagggttt caccatgttg gccaggctgc tcttgaactc ctcagctcaa gttatctgcc 5700 ctcctcgaac tcccaaagtg ctgggattac aggcgtgagc caccgcgcct ggccccctca 5760 gttccctctt gatatgcatt gaactgttca ttctttcact tttcaaaaaat acgccggtgc 5820 catggtgtta acgtgtggct ctgcactccc ctccacacac ctgctgggca tagccctggg 5880 5940 aggggtggga acgccgcgtc tgatggtgtg gggcgctaag gaattgctct ctgagaaggc gcagagtctg cacccccgca gtggccagct catgtccttc aagtgcctgg tgcagggccg 6000 cgcccaagag gagcaagtgg aggtgacggg gagccagcca ccccactta ctccctccgc 6060 ctcctccacc cccactcact ccctccccct cctccagcgg ccagtttgcg atcgtgcgga 6120 6180 agtgccggca gaagggcacg ggcaaggagt acgcagccaa gttcatcaag aagcgccgcc tgtcatccag ccggcgtggg gtgagccggg aggagatcga gcgggaggtg aacatcctgc 6240 gggagatccg gcaccccaac atcatcaccc tgcacgacat cttcgagaac aagacggacg 6300

6360 tggtcctcat cctggagctg gtctctggcg gggagctctt tgacttcctg gcggagaagg agtcgctgac ggaggacgag gccacccagt tcctcaagca gatcctggac ggcgttcact 6420 6480 acctgcactc taagcgcatc gcacactttg acctgaaggt gagccctgta gggccctgtg 6540 gggccggcct ggccagtgtg ggggtgggga tggggcgggg aagagcctgg aaggcacctc 6600 ctgcgcgtgg gggtgaggtg tggggagcgt gggggtgagg tttggggagc gtgggggtga 6660 ggttggggga gcgtgggggt gaggttgcgg ggagcgtgag ggtgaggttt ggggagcgtg ggggtgaggg tgggggaggc ccgtgctttc cctgctgagc ctcctcccac cccagccgga 6720 aaacatcatg ctgctggaca agaacgtgcc caacccacga atcaagctca tcgacttcgg 6780 catcgcgcac aagatcgagg cggggaacga gttcaagaac atcttcggca ccccggagtt 6840 tgtgggtgag gccctgccca gtgggcagcc ccggcctggg gagggtggtc tggggctgcc 6900 6960 tgctgtgcgt ggggtgggtc atgcccggtg ctgggtgccg cgtcctcggc cctgaagcca cccctcttgg gcccggcttt gcgggaggtc tgggcctcca tttggtgcag ccccgctgtc 7020 7080 ctacccgtca ggccctgagg gccagctctg ccgcattcat gcccccaagg gctgcgacat 7140 gtgagaacct tgaccccatg cctgtgtctt gagcctcttc cttggccagc atgtccccag tgcctgaccc acatctccct gttctgcagc cccagagatt gtgaactatg agccgctggg 7200 cctggaggcg gacatgtggt gagtgtacca cctgctccca ccgggcctcc ctgcattcct 7260 7320 ggagcgcagg ccagtgctgc agctggggat gaagcggggc cttgctgctg ttggggtatg 7380 gggggaccgt tgccctagaa caggggcgct ggacgccacg gtcctgggag ggtgggcggc 7440 cccacgctgc gctgaccctt gcctcttgtc tgtccccagg agcatcggtg tcatcaccta 7500 tatcctgtga gtacctggcg ggggccccct cggctgtgca acacagctgg catgggtccc 7560 cggctccgtg tgtctcatgt ggacgccagg ggtccccagc ctggctgtga cccatcgcgg gtactcaggg gataccgggt gaacggatga gtgattctct gtggctgctg tcacagaggc 7620 7680 ttctggagag ttctgaaggc aggacactca cagagcggct gagcaggctc cgggttgggg 7740 gtcgtgtgtg ctcctgtccc tctggctgct agggagccca gcctcctctc gaagtgcaag 7800 gaaggggtcc gaccccacgc tgggttttgg ctcctgtccc tgggccacac gtgggcctgc 7860 tgttgtttat tatttttatt tgttgagacg gggtcttact ctcttgccca ggctggagtg 7920 ctgtcctagc tcactgcagc ctccacctcc cagacttaag caatcctccc acctcagcct 7980 cctgagtacc tgggactaca tgtgcacaca accatgctcc catgctcgga ctttttttt tttttgatgg agttttgctc ttgttgtcca ggttggagtg cagtggtgcg atctcagctg 8040 8100 ctcactgcaa ccccacctc ccaggttcaa gcgattctcc tgcctcagtc tcctgagtag ctgggattac aggcgcccac caccatgccc agctaatttt tgtattttta gaagagacgg 8160 8220 ggtttcacca tgttgatcaa ggctggtttt gaactcctga cctcaggtga tctgcctgcc 8280 teggetteec aaagtgetgg gattacagge gtgggeeget geacceaget ggetaatttt 8340 ttttttttt tttttttt tgagacagag tttcgctctt gttgcccagg ctggatgaag tgccaaggcc ccgtctcagc tcaggcttac tgcaacctct gcctcccggg ttcaagtgat 8400 tcccatgcct cagcctccca agtagctggg attacaggtg cctgccacca tgcctggcta 8460 attatttgta tttttagtag agacgatgtt tcaccatttc ggtcaggctg gtcttgaact 8520 ccagacctca agtgatccgg ccgccttggc ctcccagaat gctgggatga caggtgtgag 8580 8640 ccaccgtgcc cagctggcta atttttaaaa gtttttgtag aggtggagtt tcactgtgtt gcccagccat attgaatggg catagctcat tcagtaagca aggaaataaa caatggcgtg 8700 8760 ggcccagccc gctgtagtgc gtgagcggac ccaaaggctt caggagatgg gctagaccgt ttgtattctt tttaaatgtt cagataattc agacttacaa aggagcaaca gaaacagcac 8820 agacgccccc tgcagcttcc tcctccttca gtttacattt ttcatgaaca cgaacgttat 8880 gaacaccaag acgttagcct tggtgctacg ctaatcacaa aagtgctaga tgggccgggt 8940 gcgatggctc acgcctgtaa tctcagcact ttgggaggct gaggagggca gatcacgagg 9000 tcagggcatt gagaccatcc tggctaacac gatgaaacca tgtctctact aaaaatacaa 9060 9120 aaattagctg ggtgtggcag cgggtgcctg tagtcccagc tactcaggag gctgaggcag gagaatggca tgaacccagg agatggagtt tgcagtgagc cgagatcgcg ctactgcact 9180 9240 ccagcctggg tgacagagcg agactccgtc tctaaaaaaat ttaaaaaatt taaagtgcca gaggtggtta gacacccccg ttttccactc ctgtcctctc tgaggtcccc acacggcatt 9300 tagccattca gctccttcgc cgcctccagt ctgaggctgt tcctctgtct ggctttcatg 9360 9420 accttgaccc tgacttgtgc tcacgggtca ggtgttttgc agaaggcgtc tgagtccacg tttagtctcg tgcgctgtca cgatcagacg atcagacggg gcttcagtgt ctctgctcaa 9480 aaccccaggg atgatgctgt gtcaccctcc cagcgtcagg ctgggaggca gacgctgttg 9540 9600 gggcctctca ctgccgggct gttgaccttg atcctttggc taaggtgttg gctcgggctc cccactgcag ttaccctccc ctcggcgtta ctgagcactg ggggctttcg ggctctgcgt 9660 9720 ctgcacagat acttcgagtc tccaaggaga cttctgcctg ttcatttctg ctgctgtcag 9780 tggcggggtg gggggtgga ttttgaatgc ctcttgggtg gtgtctggga tcgttgcagg 9840 aaggttctaa gggctcagga gtgtgagtgg cccaggcacc tgccgtcagc ctgtcttctg tgctccgcct gtcgtgggca gccggagagg cggcgcggcc gtggtgggag cccaggaccc 9900 cactgagece ceaegeetgt etegeageet gageggtgea teeeegttee tgggegagae 9960

```
caagcaggag acgctcacca acatctcagc cgtgaactac gacttcgacg aggagtactt
cagcaacacc agcgagctgg ccaaggactt cattcgccgg ctgctcgtca aagatcccaa
                                                                   10140
gtacgagggg ccggcagggg gcacggggtg ggacatggga cacaggccca ctccacccac
                                                                   10200
ggaggctcca gaggactctc ctcccagege caeeteeetg eggetgggga teagacattg
                                                                   10260
cttacccctt gggctggaga gagtaaactg ataaactggt ggcccaagct ggccattgcc
                                                                   10320
atggtttttt ttttttttt tttttgagac ggagtctttt tttttgagac ggagtcttgc
tctgtctccc aggctggagt gcagtgcagt ggcgtgatct cggctcactg cagcctctgc
                                                                   10380
ctcccgggtt caggctattc tcctgcgtta gcctcccaag tagctgggat tatagacgcc
                                                                   10440
                                                                   10500
cgccaccacg cctggctaat ttttgtattt ttagtagaga cagggcttca ccatgttgcc
caggettgte ttgaacteet gaceteettg gtttgtgatt tgeetgeett ggteteecaa
                                                                   10560
agtgctggga ttgcgggcgt gagacaccgt gtctggctgc ttgctgtgtt tttagcaaac
                                                                   10620
                                                                   10680
ttttaattag ttgccggtgt gtaaagtaag gatccatgta aaattccagg tcacttgttt
                                                                   10740
tcctqtaaac acttagaatt ctggcagtgc tgagccctca ctcgtaggcc tccccgggcc
                                                                   10800
tccatggccg cccagtccct ctctcgggcg cctgggtttg cgactccagc ctgaggtctc
agetetetee accaecece agaaaacece aegeteeetg cagtaceett gtteagette
                                                                   10860
tgtggttggc tgagcagagg ctggggggcg actttagggc ttttgggggt cccgggagtc
                                                                   10920
agttgttcac gggaggacgg gacagatggt gcaggtgtac ctaaccagag cgggggtctt
ccaggcggag aatgaccatt gcccagagcc tggaacattc ctggattaag gtaagtgggg
aggtggggga gctccctggg cttcccgcct tggccttctc gctggggtcc cggggggcct
tcagcattta aggcttgtgg atgtgacaac ccccagtggc tggggagggt ccccagagga
gtgagcctgt gtggcggggg ttgggtcctg ggcgtgggat gtccagcacc cgacagacct
ggtggcatcc ttggctggtg tgtgtccaac ggggctgact cctggggcca gggccgcagc
gtttttctcg agagagcact ctcggctttg cgtcgggctg ggcagtctcc gtcacgaggc
                                                                   11400
gttgactctg ctgccggatg agcccctgaa cctcagttca cactggcagg tgggggctgg
cggggctggg tggcatcgcg gggaccccgc tcaggcttcc ctccttccta ggcgatccgg
                                                                   11460
                                                                   11520
cggcggaacg tgcgtggtga ggacagcggc cgcaagcccg agcgcgcggc gcctgaagac
cacgcgtctg aaggagtaca ccatcaagtc gcactccagc ttgccgccca acaacagcta
                                                                   11580
cgccgacttc gagcgcttct ccaaggtgct ggaggaggcg gcggccgccg aggagggcct
                                                                   11640
gcgcgagctg cagcgcagcc ggcggctctg ccacgaggac gtggaggcgc tggccgccat
                                                                   11700
                                                                   11760
ctacgaggag aaggaggcct ggtaccgcga ggagagcgac agcctgggcc aggacctgcg
gaggctacgg caggagctgc tcaagaccga ggcgctcaag cggcaggcgc aggaggaggc
                                                                   11820
caagggcgcg ctgctgggga ccagcggcct caagcgccgc ttcagccgcc tggagaaccg 11880
ctacgaggcg ctggccaagc aagtagcctc cgagatgcgc ttcgtgcagg acctcgtgcg
                                                                   11940
cgccctggag caggagaagc tgcagggcgt ggagtgcggg ctgcgctagg cgcagtgggg
                                                                   12000
tgggccaggc cccaggacag ccggagctcg gcctgcggtg ggggcgcttc ctgtggacgc
                                                                   12060
tgcgcctccc atcgcccggg tgcctgtcct tgcccagcgc caccaggctg gaggcggagt
                                                                   12120
                                                                   12180
gggaggagct ggagccaggc ccgtaagttc gcaggcaggg gtgggtgtgg gacggggctg
cttctctaca cagcctccac gctggccttc accttcaccc ctgcatcgtc ggtgaccctg
                                                                   12240
ggaccctcca ggcagcgtgg cctgtggcac cgtgagggtt gggacccacc gaggcgcaga
                                                                   12300
ggcggcccga atgcagccct ggttcaggcc cggaggaggg tttgcgggta gttgcacgga
                                                                   12360
caattcggcg gggtgctgcc tgttgctgcc attagcccag gaggaggtcg tgggacgggg
                                                                   12420
agggtgggat ggacggcgga caggcagtcc ccacgctgct gggtggcgcc gggcttggtg
                                                                   12480
gggtcttcca ctgtgtgccc ttctcgccga ggccggtccc ccgggtgtgg ggtgccctgc
                                                                   12540
tgcggactcc tccgcgagcc ccatcgtcgc gcctgtggac gcctaggcaa gagcggccct
                                                                   12600
ctgcagccaa gagaaataaa atactggctt ccagatac
                                                                   12638
<210> 12981
<211> 280
<212> DNA
<213> Homo sapiens
<400> 12981
                                                                       60
ttttttttt tttttttga ggtggagttt tgctcttgtt gcccaggctg gagtgcagtg
gtgtggtctt ggctcaccgc aacctccgtc tcccatgttc aagcgattct tctgccccaa
                                                                      120
cctcgcgagt agctgggttt acaggcatgt accaccacac cgggctaatt ttgtattttt
                                                                      180
                                                                      240
agtagaggca gggtttcacc atgttggtca ggctagtcat gaactcccga cctcaggtga
                                                                      280
tccgcccgcc tcagcctccc aaagtgctgg gattacaggc
```

<210> 12982

```
<211> 278
<212> DNA
<213> Homo sapiens
<400> 12982
                                                                      60
gtggctcatg cctgtaattc ctgcactttg ggaggccgag gcgggcggat caggaggtca
ggagatcgag accatcctgg ctaacacggt gaaaccctgt ctctactaat aaatacaaaa
                                                                     120
aattagctgg gcgtggtgac gggcgcctgt agtcccagct attcgggagg ctgaggcagg
                                                                     180
                                                                     240
agaatggcgt gaacctggga ggtggagctt gcagtgagcc gagattgtgc cagtgtactc
                                                                     278
cagcctgggt gacagagcga gactccgtct caaaataa
<210> 12983
<211> 2778
<212> DNA
<213> Homo sapiens
<400> 12983
ataaagaaga aagtaggtgg gttacatgaa agcagttata catcaaaaat atggttttct
                                                                      60
tcatcttctt ttcctccttt tcctttctct tcatcgtatc tcttcagcca cattcaccct
                                                                     120
taacacaaaa agttcctcct gaaatcctca tgctattttc ttggctcaaa tccctttgac
                                                                     180
taccccagat tttttggaag aaatccttcc aaaggtattt ttcatctcaa aaagtttttt
                                                                     240
                                                                     300
tgcattcatt accttacttc atgccctctt ctttcaaagt tccagagagc actgcattca
ctttgctgca ttaagaggga aatagcgtct tctctcctcc tatcctgtta ttgactctct
                                                                     360
tgtggcttct ttcttcatca gagaagcaag tggctcaacc agggcttaga aaaggcacag
                                                                     420
                                                                     480
atctcactca cccctaagga ggcagagaga agggtaacca gtgtggctat cttggctcat
                                                                     540
cctcgtgggt acaatcaata gctgaggcat gggcttggtt gtagagaaac aagtggggcc
                                                                     600
agaggagagg ggagaaagga gggaggggag aaagattccc ccattggaaa ttctgctggg
                                                                     660
attcagtatc ctagctattc tgatgtccta gatttgaatc tgggtttcta aacatatgct
                                                                     720
ctacattatg aaaatgccca aaaacacata taaattggct tttcttctgt gtttgtccta
                                                                     780
                                                                     840
cattgcagtt ctataactat tttattaagc tctctagaac tggttcttat atttaccaac
actggttatt aggttttgaa actcaaaata agaaccattt gtaggcatct gtataaaaca
                                                                     900
aaatacttat tgatcatcta ctaagcatta taccaggctt tataacttcc tcattcttct
                                                                     960
tctaagtgtt cagtgacttg tggctatttc tctaattaaa ttgaaactcc tggtgagaaa
                                                                    1020
ctttaaggct ctccaacaag caatgtatgt tccctcactg taacttctgt cccagccata
                                                                    1080
caaactcctt ctcagttcac cttctctcaa gtccaggctt tcttcagtgt tacttgtgta
                                                                    1140
cctaaaatat gcctatagtt cacctcacct ccatcctacg tcctatcact gatacaaggg
                                                                    1200
gaaatatata tatataatac ataaagtett eettatgatg aetteaaaag accaagggag
                                                                    1260
ggtgtatggt tttttttctt acctcaatat tcaaatccct gaggttgtca caaacaatat
                                                                    1320
caaatcatga ttaaataatg atttaatttt cttttgtaag ttcttaaaat tagtatatta
                                                                    1380
                                                                    1440
atgataatct gcttgaaatc aagccttatt gctcttccca tggaattcga atgatgacaa
taaattataa acccatcact gtattttctt cattctgtaa catgtcaagt atcagcttaa
                                                                    1500
taaattctct gggctacatt tgaagtttct tggttaaaaa tcagagatcc aatgtatctt
                                                                    1560
aaagttaaat ttttagatat ctaaaaaaca tagcatactg catctgtaaa aatggcatgc
                                                                    1620
tgaactttca caaattattc agaaacaaat tttatttaga gaaatttaag ctaaaaatgc
                                                                    1680
agcaaaccag aaatcagtta ctgaatgctt cacaatcccc agaaaatgag aattatgtaa
                                                                    1740
gaaaggaata aaggcaaatt ttacattgac cctcacagag caaaattaca ggagttctgt
                                                                    1800
tctctttgat tactaactca gaaataattt atttcaagct tttagcactg aagatgttag
                                                                    1860
ttcaaaaacc acatgtttat tcttatgcct gtgttgataa aactttgcta aatattttat
                                                                    1920
atgtattaaa aatggagaat gaaagagatg tgtttcaaga gccttttaca gataaatcct
                                                                    1980
aacaatcaaa taggaaatag aacattaatg tgaataaaat gctctggcaa ggtaggaaga
                                                                    2040
aatgaataac tggaagtaga gagtccttag cattacaaag tggtaagatt tctaaaacag
                                                                    2100
tcatcttgtg agttttttat gcactgttaa tagtaacaat acgttccatg aattatgcag
                                                                    2160
ttgggatgat ttctccttgt gtggattgcc agttctagaa atcagtaaaa gtgaagaatg
                                                                    2220
agttgaaaaa cctatcagcc tactgaatct actaaagcct ctaaaaatatt caatgtctaa
                                                                    2280
ttgcagcaat ttgtatttca taggtgccat atcaaaatct tctccattga ggtcatgatt
                                                                    2340
gagtctttaa aaaaaaattt ccagatgtga agatatatat atatacattt taagtttcca
                                                                    2400
gcattgtgtg tacaagaaac caaaacctcc atggagggca tgctgatgag ttgcatggca
                                                                     2460
caattgtcat ttctgttttg attgcatgtc ctatttttga acctgtaaaa gtgtgtagtg
                                                                     2520
catatatgtg tgtcctatat atggcaattt gtctgatagt gtgtttgagt tctttctggc
                                                                     2580
```

aaaaaaaaa aaaaaaaaac t

```
totttttcta gcagagttca atccacagct ttcttcattg gagaatttgt gaaataaaag
                                                                    2640
tgagttaatt tgtgttacac actctcttaa ataacctaga cctacaaatt gcttgcctaa
                                                                    2700
ggctaaaaaa tagaaaattc aaagaaacat atgaatgatc tcagttggcc tttgatgagt
                                                                    2760
                                                                    2778
aaaaaaaaa aaaaaaaa
<210> 12984
<211> 2781
<212> DNA
<213> Homo sapiens
<400> 12984
                                                                      60
ataaagaaga aagtaggtgg gttacatgaa agcagttata catcaaaaat atggttttct
                                                                     120
tcatcttctt ttcctccttt tcctttctct tcatcgtatc tcttcagcca cattcaccct
                                                                     180
taacacaaaa agttcctcct gaaatcctca tgctattttc ttggctcaaa tccctttgac
                                                                     240
taccccagat tttttggaag aaatccttcc aaaggtattt ttcatctcaa aaagtttttt
                                                                     300
tgcattcatt accttacttc atgccctctt ctttcaaagt tccagagagc actgcattca
                                                                     360
ctttgctgca ttaagaggga aatagcgtct tctctcctcc tatcctgtta ttgactctct
tgtggcttct ttcttcatca gagaagcaag tggctcaacc agggcttaga aaaggcacag
                                                                     420
480
                                                                     540
atctcactca cccctaagga ggcagagaga agggtaacca gtgtggctat cttggctcat
                                                                     600
cctcgtgggt acaatcaata gctgaggcat gggcttggtt gtagagaaac aagtggggcc
agaggagagg ggagaaagga gggaggggag aaagattccc ccattggaaa ttctgctggg
                                                                     660
attcagtatc ctagctattc tgatgtccta gatttgaatc tgggtttcta aacatatgct
                                                                     720
ctacattatg aaaatgccca aaaacacata taaattggct tttcttctgt gtttgtccta
                                                                     780
cattgcagtt ctataactat tttattaagc tctctagaac tggttcttat atttaccaac
                                                                     840
                                                                     900
actggttatt aggttttgaa actcaaaata agaaccattt gtaggcatct gtataaaaca
aaatacttat tgatcatcta ctaagcatta taccaggctt tataacttcc tcattcttct
                                                                     960
tctaagtgtt cagtgacttg tggctatttc tctaattaaa ttgaaactcc tggtgagaaa
                                                                    1020
ctttaaggct ctccaacaag caatgtatgt tccctcactg taacttctgt cccagccata
                                                                    1080
caaactcctt ctcagttcac cttctctcaa gtccaggctt tcttcagtgt tacttgtgta
                                                                    1140
cctaaaatat gcctatagtt cacctcacct ccatcctacg tcctatcact gatacaaggg
                                                                    1200
gaaatatata tatataatac ataaagtett eettatgatg aetteaaaag accaagggag
                                                                    1260
ggtgtatggt tttttttctt acctcaatat tcaaatccct gaggttgtca caaacaatat
                                                                    1320
caaatcatga ttaaataatg atttaatttt cttttgtaag ttcttaaaat tagtatatta
                                                                    1380
atgataatct gcttgaaatc aagccttatt gctcttccca tggaattcga atgatgacaa
                                                                    1440
taaattataa acccatcact gtattttctt cattctgtaa catgtcaagt atcagcttaa
                                                                    1500
taaattctct gggctacatt tgaagtttct tggttaaaaa tcagagatcc aatgtatctt
                                                                    1560
aaagttaaat ttttagatat ctaaaaaaca tagcatactg catctgtaaa aatggcatgc
                                                                    1620
tgaactttca caaattattc agaaacaaat tttatttaga gaaatttaag ctaaaaatgc
                                                                    1680
agcaaaccag aaatcagtta ctgaatgctt cacaatcccc agaaaatgag aattatgtaa
                                                                    1740
gaaaggaata aaggcaaatt ttacattgac cctcacagag caaaattaca ggagttctgt
                                                                    1800
tctctttgat tactaactca gaaataattt atttcaagct tttagcactg aagatgttag
                                                                    1860
ttcaaaaacc acatgtttat tettatgeet gtgttgataa aactttgeta aatattttat
                                                                    1920
atgtattaaa aatggagaat gaaagagatg tgtttcaaga gccttttaca gataaattct
                                                                    1980
aacaatcaaa taggaaatag aacattaatg tgaataaaat gctctggcaa ggtaggaaga
                                                                    2040
aatgaataac tggaagtaga gagtccttag cattacaaag tggtaagatt tctaaaacag
                                                                    2100
tcatcttgtg agttttttat gcactgttaa tagtaacaat acgttccatg aattatgcag
                                                                    2160
ttgggatgat ttctccttgt gtggattgcc agttctagaa atcagtaaaa gtgaagaatg
                                                                    2220
agttgaaaaa cctatcagcc tactgaatct actaaagcct ctaaaatatt caatgtctaa
                                                                    2280
ttgcagcaat ttgtatttca taggtgccat atcaaaatct tctccattga ggtcatgatt
                                                                    2340
gagtctttaa aaaaaaattt ccagatgtga agatatatat atatacattt taagtttcca
                                                                    2400
gcattgtgtg tacaagaaac caaaacctcc atggagggca tgctgatgag ttgcatggca
                                                                    2460
caattgtcat ttctgttttg attgcatgtc ctatttttga acctgtaaaa gtgtgtagtg
                                                                    2520
catatatgtg tgtcctatat atggcaattt gtctgatagt gtgtttgagt tctttctggc
                                                                    2580
tctttttcta gcagagttca atccacagct ttcttcattg gagaatttgt gaaataaaag
                                                                    2640
                                                                    2700
tgagttaatt tgtgttacac actctcttaa ataacctaga cctacaaatt gcttgcctaa
ggctaaaaaa tagaaaattc aaagaaacat atgaatgatc tcagttggcc tttgatgagt
                                                                    2760
```

2781

```
<210> 12985
<211> 1887
<212> DNA
<213> Homo sapiens
<400> 12985
ttggaggata tetteaagaa gageaageee egetateaea agegeaeeag etetgetgte
                                                                       60
tggaactcac cgcccctgca gggcgccagg gtccccagca gcctggccta cagcctgaag
                                                                      120
aagcactgag gctggcctgc ggccttcttg gcagcctcac ctcctgtcca tgtctatctg
                                                                      180
tctgtctgtc ggtctctgtc ttggtctgtt gccctccttc ttggcatgcc attgtggagg
                                                                      240
gcttggccag gtgtatataa acgtcctctg tgctgggtgt ttctgctgca ggtggcaggt
                                                                      300
ggccccaggc ctgtttggag gatgggctgg gtgggtgggt ggggaagaaa tgggcccagc
                                                                      360
cccacatggc ctgcagacag tgctctgtaa atagttgttt taatttagct gaatgttagc
                                                                      420
                                                                      480
attttagtct ttggcatttt agcgtttggg aggtagatta ataaagtata ttccttcaag
                                                                      540
cctgctgttg ataccatgaa gactgggcgc ctcagtccca gccctgtagc tgtgtgtctt
                                                                      600
gggccaccag tggcctgcag gacgaaggta ctgttccatc acctgcggtg tgcctcagga
                                                                      660
tcaccaggtg caggeccca cecteggaga tgetgetgea gtgagtggtt ccactgeetg
                                                                      720
gataaccctt gaggaacacg tcagttactg tcacgatggg gcaggtggag ctccttccta
                                                                      780
ttttttgggg tgctccctgt ttgtaaaggg gagtttgttc attgggaaag acctgggtct
                                                                      840
tgacacggcc ctgccactta gtcccctacc ctctccattc cccaggctcc acccgtgctg
                                                                      900
ctcaggtgca aatggacttg agaacatcta tgtgctggtg aagcatgagg tctgagtaga
                                                                      960
aaaggggtat cccttgagac caccttggga ccagtgcttg caagcagcga gatatttccc
cagcaaaacc aggcagctgc taattaaatg cttagaacca atgaaagctg gctgtggtcc
                                                                     1020
                                                                     1080
tgcctgtgag ctgcctactg ctgccttctg aatgcatata tctgctactg tagccccggg
                                                                     1140
ttgtcaaact atggcctgtg ggccaaatcc agccacagtc ggttctttaa agttttatcg
aaacacaagc aatggaaatg cccatttcca ttgttgtctc cagttgctct gctccgaggg
                                                                     1200
                                                                     1260
cagtgttaag ttgtgcagca gaggcccctc catgcaaagc tgaatatgtt tactatttga
actttttcag aagttctgct taaggacaaa ataaagccta aatccaagaa cacttttaaa
                                                                     1320
                                                                     1380
aatgaggaaa tagtgaacac aatagacgga agtctggaag tttctaccca tgccaagaaa
agcattttat gttttgttca catatgttgt gcaattcaaa tttttttccc tatattctct
                                                                     1440
                                                                     1500
gactagacac ttgtactgag tcaattggcg agtgtgtctg tctaaaacca caatatcaaa
atatcactta aagcatcttt acatagtgtg tttaagaaaa agttgttatt cagcagaaag
                                                                     1560
gtaattccaa ttggtctgca tatttatcag cacttggtat tgtctgtttc ttattttagc
                                                                     1620
                                                                     1680
cattctgata ggtgtgtact gatatctaat catggcttta atttgaattt ccctaatggc
tgatggtgaa catcttttcc tgtgcatttc tgtcatctgt atgtctttgg tgaagagtct
                                                                     1740
                                                                     1800
tcaaatcttt tgttcatctt aaaattggat tgttatatta ccgttgggtt taagaatcta
catattatgg atacaaatat gttgtcagat atgtgctttg cagcattttc tcccagtctg
                                                                     1860
                                                                     1887
tagcttgtct ttaaaaaaat ttttttt
<210> 12986
<211> 1546
<212> DNA
<213> Homo sapiens
<400> 12986
ggcccagccc cacatggcct gcagacagtg ctctgtaaat agttgtttta atttagctga
                                                                       60
atgttagcat tttagtcttt ggcattttag cgtttgggag gtagattaat aaagtatatt
                                                                      120
ccttcaagcc tgctgttgat accatgaaga ctgggcgcct cagtcccagc cctgtagctg
                                                                      180
tgtgtcttgg gccaccagtg gcctgcagga cgaaggtact gttccatcac ctgcggtgtg
                                                                      240
cctcaggatc accaggtgca ggcccccacc ctcggagatg ctgctgcagt gagtggttcc
                                                                      300
actgcctgga taacccttga ggaacacgtc agttactgtc acgatggggc aggtggagct
                                                                      360
ccttcctatt ttttggggtg ctccctgttt gtaaagggga gtttgttcat tgggaaagac
                                                                       420
ctgggtcttg acacggccct gccacttagt cccctaccct ctccattccc caggctccac
                                                                       480
ccgtgctgct caggtgcaaa tggacttgag agcatctatg tgctggtgaa gcatgaggtc
                                                                       540
                                                                       600
tgagtagaaa aggggtatcc cttgagacca ccttgggacc agtgcttgca agcagcgaga
tatttcccca gcaaaaccag gcagctgcta attaaatgct tagaaccaat gaaagctggc
                                                                       660
                                                                       720
tgtggtcctg cctgtgagct gcctactgct gccttctgaa tgcatatatc tgctactgta
                                                                       780
gccccgggtt gtcaaactat ggcctgtggg ccaaatccag ccacagtcgg ttctttaaag
ttttatcgaa acacaagcaa tggaaatgcc catttccatt gttgtctcca gttgctctgc
                                                                       840
tccgagggca gtgttaagtt gtgcagcaga ggcccctcca tgcaaagctg aatatgttta
                                                                       900
```

```
ctatttgaac tttttcagaa gttctgctta aggacaaaat aaagcctaaa tccaagaaca
                                                                      960
cttttaaaaa tgaggaaata gtgaacacaa tagacggaag tctggaagtt tctacccatg
                                                                     1020
                                                                     1080
ccaagaaaag cattttatgt tttgttcaca tatgttgtgc aattcaaatt tttttcccta
                                                                     1140
tattctctga ctagacactt gtactgagtc aattggcgag tgtgtctgtc taaaagcaca
                                                                     1200
atatcaaaat atcacttaaa gcatctttac atagtgtgtt taagaaaaag ttgttattca
gcagaaaggt aattccaatt ggtctgcata tttatcagca cttggtattg tctgtttctt
                                                                     1260
attttagcca ttctgatagg tgtgtactga tatctaatca tggctttaat ttgaatttcc
                                                                     1320
ctaatggctg atggtgaaca tcttttcatg tgcatttctg tcatctgtat gtctttggtg
                                                                     1380
aagagtcttc aaatcttttg ttcatcttaa aattggattg ttatattacc attgggttta
                                                                     1440
agaatctaca tattatggat acaaatatgt tgtcagatat gtgttttgca gcattttctc
                                                                     1500
ccagtctgta gcttgtcttt aaaaaaaaaa ttttttttt ttattt
                                                                     1546
<210> 12987
<211> 1733
<212> DNA
<213> Homo sapiens
<400> 12987
                                                                       60
ttttttagag atgggatett getaegttgg ceaggetggt etegaaetee tggeetgaag
                                                                      120
tgatccttct gccttggcct cccaaaatgc tgagattgta ggcatgagcc gccatgccta
                                                                      180
qcccaqcttg tctttttgtt tacttaccag tgtttttcag agaacaaaaa ttttaatttg
                                                                      240
atgaagtcca attaattaaa tttttaaaat agagtgtgat ttttttgtca tgtctaagaa
                                                                      300
actattgtct agtcctaggt cctaattctc ctttgttttc ttctaaatgt tttattattt
tacatgttaa cgtttagatt tatgatctat tttgagttaa gttttttta agtatgaggt
                                                                      360
                                                                      420
ttatgttttt tgtttgtgtt taggagcata tggatggatg tctagttgtt ccagcaccat
                                                                      480
ttgttggaaa gactatcctt tctctgctga atttctttta tatctttgtc aggaattagc
catattggta tgggtctatt tctagacttt ttattttctc ccattgatct gtacatctct
                                                                      540
                                                                      600
ccttttgcca ataccacata agtcaagatg actatagctt tgtaataagt attaaaatct
ggtaatataa ttcttccaat tttatttttc ttttaaaaatt attttgacta ttgtatcagt
                                                                      660
                                                                      720
gttacctttc catttaaatt ttaggattag cttagctaca aaagtcctgc tgggattttg
attagaattg cattaaatct atagataagt ttggggagaa ttaacatatt tatgatcgcc
                                                                      780
                                                                      840
ttttaatcca tgaacatgac gtgtctctcc atttatttgc atgtttagtt tctttcttca
gcattttata gttttagcat acagatcttg tacatatttt cttagattta taactattta
                                                                      900
ttttcttgga gctgttgtaa atggtattgt ttttctgatt tttggtttct acttgttcat
                                                                      960
tgctggtgta tagaaataca gttggctttt gtgtcggctt tgtatcccgt gatgcaagta
                                                                     1020
aagcagtact gaggggaatt tatagggctc aatgcctgtg ttagaaaaaa aggtctcaaa
                                                                     1080
tcagtgacct cagcttccac tttaagaaac tagaaaaaaa agaccaaatt aaaagtgtac
                                                                     1140
acagaaaagg ggaaatcatg caagtaaaac agaaattaga cattaggaag agaaaatata
                                                                     1200
gaaaattaat taaccaaaag ctggttcttt gagaagctca agaaaattct ctttagactg
                                                                     1260
atcaggagaa aagatagatt accaatgtca gaaattaggt agcttcacta cagattctac
                                                                     1320
agatattaca acaataataa gagactatta cgaataactt ctaggcatac atttgacaat
                                                                     1380
ttagatgaac ccatgcagat tccttaaaag atacaaatta gtttacttag gaaaaagtgg
                                                                     1440
aaaacctaca tagctctatg aaagatgtgt tatcacaaag aaaacggtag acataggtag
                                                                     1500
ctttagtggt aaatgttgcc acgtatttaa ggaaataata ctaattctgc acaacctctc
                                                                     1560
acaagaaata taagaggaaa gaatactcag ttctgtctct gaggccagca ttgctttgat
                                                                     1620
ccccaaatca gacattgcaa gaaaagaaga caattatccc tcatgaacat caacacaaga
                                                                     1680
attcttagag ttttatcaag tccaacaagt taaataaaaa ggattacact ttt
                                                                     1733
<210> 12988
<211> 15727
<212> DNA
<213> Homo sapiens
<400> 12988
atgctcacct gttacaccag ttttaggata aagaaactgg aagaattcct cagggatcag
                                                                       60
tccataacga acttttcctc cgtattcagg aagaggtggt acagggacaa ggtgtggctg
                                                                      120
                                                                      180
ccctgtatga aaggtccttg ttgcctgcaa taccctacag gtagtaattg tacaaatgta
aagcctgttt ctttaaggag aatacagtgt atgaataatg agcagaaaca ataaataggg
                                                                      240
ttgataattg aggcagtttt ctaactctca taatggaaag agaatggact gggaatggaa
                                                                      300
```

ggttagggtc cagtaatcag ctgtgacaac agcaaagaat taatcacaga catttaacct 360 tctacccaat actggaatcc cttctatcag ccttgcagat catctgtcta gcactttgta 420 480 tgtctatcat tagcactgaa atatgtaaga atgtggacgt ggcggtcaga taggcatctt 540 gagttcaaat cctagacctg ctccttgact ttgagtaaag aacttaagct tttgtaatct 600 cagatttctc tcagtaaaat ggaaatagaa gataatacct tatatggttg ttgagaggat 660 taattgagtt aatatatgtg acgtgcttag aatgatgcct ggcacatgga aaagttctac 720 gtaagtggtt agctattata tgcctgatat gttgtaagct cctggacctt tttgaatact ctctttgatg agagtgctaa acactatatg taacagactt tttcagtact gggtagctct 780 840 aattatgttc atctttgaat tgagatgata catacattct tggaacctca atccattctt agttctaatt ttgcttttct atgtaagata acacacatgt acctgggtca aacatctgtt 900 ccotcacaat cctgattgcc cgtaaggact tctctggttt tatcttttt tttttttt 960 1020 aatgaggtat acagaactga atataatact ttaagtatag tctggccaat ttattcatcc 1080 tacaaatact tattgagaac ttactattgc cagtactgag cttgaacaat tgaactatta tcaacagtgg atttggaaac tattcttgta ttaaagcagc ttaagactac acttttaaca gttacagcat actgatgtct ccttaagctt ctgatgaaat aaaatctagt ccctttatat 1200 1260 ctgctgtcat ttagtctcct tcaagttttc agtgtatttc tgtcccactt cctaccctcc 1320 attectecaa teteteaact tetateteet tgtaatataa gaatttacat tattteattt attttggtac aatgcttatc ttttgaatat tatttctgcc tccaaatata ttagctaccc caccaggttt tgaaatctga gaatcatgct tgagatttct tcatttacat caaggtttct 1440 1500 caattcagca ctaccgacgt ttgaactgga tatttctttg ttgtaagagg ttgttctgtg 1560 cattgtagaa tgtctggcag tatctttgtg gcctttatac aataggtacc agtagcccct ccctccccga cccatcctat ggtaacactg aaaaatatct ccagacattg ctaaatgtca 1620 1680 cctgcaggca aaccacccca ggctaagaag cactgattta aatcatagca ctaaatggta 1740 tgcttaggct gacaagtctc cctaactagc taccttagtt caagtcctta tcacctcttg 1800 cttagtttaa caatacaaaa cctggtctct ctgcttattt tatttatttt tttgagacag 1860 aatcttgccc tatcacccag gcgggagcac agtggcatga tctcagctca ctgcaacctc cacctcccag gctcaagtga ttcttgtgcc tcagtctccc gagtagctga gtagctggga 1920 1980 ttacaggcgt gtgccaccac acccagctat ttttttttt atttttagga gagacggggt 2040 tttgccatgt tggccaggct ggtctcaaac tactgtgatc tgccgtctcg gcctcccaaa 2100 gtgctgaaat tacaggcgtg agacactata cctggcctct gcttcttatt aaatacccca 2160 acttaaacct agcccactca cattactgcc aatgtttcta aaatgaaaat ctgacttgaa aactcaacag gctctctcct gcctacagaa aactacttaa tataacatac ataatctagt 2220 2280 acctgtcatt ttttttttt tttgagacaa agtctcactg tgtcacccag gctggagtgc agtggtgcca tcactgctca ctcgcagcct ccacctcctg ggctcaagcc atcctcccac 2340 ctcagccttc ccaatagctg ggagtacagg tgtacaccac aatgcccagc taatttaaaa 2400 aatttttaaa aatttttgtt gttttgtttt tgtctatgtt gcccaggcta gtcttgaact 2460 2520 cctgggctcc agtgatcctc ctgccttggc ctcgggatta taggcatgaa ccaccactgt gcctggtcct gccaaatttt ataaccttat cttccttcat tctcttactc tcctggaatt 2580 2640 acttaacagc tctcaaaaac aaacaaagaa acaccacaaa aaaattgcct tatgctgctc 2700 cttctgcctt gtatgccctt cataccatga ctttatagca atgactatca agaccaatca 2760 ggagcaatga ctaccaagac caattagcct ccagatttgt aaagccctcc ccccattttg 2820 ggctaacatt cattettta atcaattaaa aaaaacattt actgacttte tactaatget 2880 aggcaccggt aacatggcaa tgaacaaagc tccagccttc aacattctag tgggggtatg 2940 ggaagggtga gtgtgtatct ccatacaaaa tttcaggcag ctctaagtgc tatggagaaa aactgagcaa ggtaagcgga tagggagcaa caaaatgggg aagagttttt tggtagggag 3000 3060 tcagatgaca tttgacccaa tcatctgggg aaaagagaga agagcaagta gaaagatatt 3120 gaggcaagaa tgcgcttggt agttttcaga ggaacaccaa ggttggagaa tgagctaaaa 3180 agagaccaca aggagatggt gtcaagagat aggatggaat caattcatgt tggaccttct gggttatgct aagtttggat tttattcaag tgggatgggg agctctggaa ggccttggtg 3240 ggggattgac ataatcctcc tggctattat gagaatgggc tgtaatggga caagaataga 3300 gatgcaagac taattaagag actactaaaa tacctaggtg aaagtttata gtggttccta . 3360 ctttagcggt agtggaagca gcagtcagag tccaaatttc tagaggaaga gccttgctga 3420 ggtactggac atggagtgtg aaagaaaacc aaggatattc cttgtatctt gtaagtataa 3480 gttatttact acctggtatt acaattattt gtttaccagt ctgtatgggg tcctttttct 3540 tctaagttgg aagcagtcaa ttatagcctt actttttgca tacatgagac ttaattatag 3600 ataagaccac tttttcaagt ccatttttt tcaatttgag ttaccgtatt ttgcaagctt 3660 tagaactaag tttggaagta aaaagagaaa tctctaggaa aatggacatg tcttatggaa 3720 caattttaac ggtaacagct gctaaattta ctaagcacac actatgtacc aagaactgtt 3780 tttgagtttc acagcaattg tctcttaatt ctcaaaagcc acaatgcact attatcgcca 3840 ttttatagat gaggaaattg aggtcacaca gccagtaagt ggaggggcca gggaccctgt 3900 actggctgtg gagccctcac tctaaaccaa tactcttaag gtgcctccca ttcctagact 3960 gtgagctcca tgagggcagg taattagcca tactcattct tgtatccttg gttatgtttt 4020 taggcaacat aaatatttac tgaatcaatg aatgatttct ctgattgtta tcatatggca 4080 gcaaaaacta ggtatctggg aaaccgactg taaacaacat gctttactgt tttattgaac 4140 4200 aaaatttatt cttgggtatg taatctactc ggattcaggc tgtggaagct acatgtcata aggtcccaag ggaaggtcac aaaggagtag ggcgggtata gaagacagca aaaccaattt 4260 ctagtttagt tagaatacgt tacttatcct gctaaaatct tggtcattag gtgacatgag 4320 4380 agcgttcctg gcagttacag gaacaagtgt cttgtctgaa agagggttta agtgtcccaa 4440 aattatcgga aagaaatttc tgacctaaag ctaagggggt gggggcagga atcgggaaat aaaaggtagt gaaaacaaag acgaaaggga gcattatcct cacacttacc ctggacctag 4500 gaaggctgca ttcttcagag agggggctgc agatagacaa ggcgaaggtc agcaaagtca 4560 aatgaaatct ggtttgccct ttccttaccc ccgccaggct ctatcactaa gcctatgtac 4620 4680 ccctctttcc cgtccctcaa gaccccacgc tcccttccga actgcactga ccactcgcct 4740 ctcaggcccg tgtcgctgcg cccttctccc ctccctgtca cccctagatt cgcttctttc 4800 caatcactct gatagtccag agcagggtct atacccctta cccgctgtgg cggcggga 4860 aagtaccacc cgggacagca tggtcaacga aagtccaggt agcaatctta gcgtccctgt 4920 gaccccgata ggagaatctg tcagggcaga accaagatgg ccgctcacaa gtctcgcgag 4980 atgaaaattt tgtactcttc cttcaacttt ccttgggaga tttttaaaaa aaattatcgc gagaagagtc aagtaacgct gagagcctat cgcatgaggg cgacagccgg aaagcaggat 5040 5100 ggagccatag aagcaattct cgcgagaagt agagttgcgg ttccctcggg agaggggcgg aggeteagag gtgcaccaeg tggggtttge tgeeggaget gagteteegg eeggegteea 5160 5220 gtttgagtct aggttggagt tggaaccgtg gagatgcgaa aggaaaaccc accccccta gtgccccgg cggcccggga gtggaatctt cccccaaatg cgcccgcctg catggaacgg 5280 cagttggagg ctgcgcggta ccggtccggt gagccgagat ccgaggcgtg ggagctccct 5340 taccccgccc agggcgcccc tccccgcaga ctgaccctat cagcacatcc ccgccctgca 5400 tgttatcctg accettggtt gtgtcaccga gctgtcctca gccctgcacg gcgttcttga 5460 gctcagatcc agaccccgaa ggacacgctg ttctgtgcgg tttccatgta ggtgagccct 5520 5580 tctacccttc gcgaggtgcc agcttgtagc ccccgtaaat gaggcgcttc tccttagggc ctccagcttg agtgggtgag gctgggccgg ctccctccgg ctttttatgt acccctgtac 5640 5700 cgccccaac taaggcttct gctccgcggt agtccaaacg gaggctggag tgactgacct 5760 cacttgggtt ggggagagag gtattctagt ggcctccgat tcaggtgagt ctctatccca ttatccaccc ccaccccgg gtggaacggt agaatggaga cttggggtac cgtagggttg 5820 agctcaatat ctaacgtcct atactcagtg ctggaggagc ctgagagtgt tggccccgaa 5880 tgcaaactct tgtgtaggtg ggaaatacct tttctaaaat tctaaattgt ctggtgagat 5940 ttcctagaaa aatccgtaac aaaattaagc aacggattgg aaccattttt cttctgtgta 6000 acctgcccct taacccccac agcccagacc aagcataatc ttgattttaa gatgacattg 6060 aagccaatct gtgctacatg tctcttccca tttcttaccg ctttcttgtc ttcattctgc 6120 tttctttttg ttgactgtta ggcttagcga tgcaggcttt ggcatttttt tttttttaa 6180 atcagaattt ggaagttggc cggcattgca tggaagttta aagtcccagt ttttgataga 6240 tttaacctct ctgacagttg agcttgaaca ctacataatc aagacaactt ttggcggatt 6300 ctctatactt aaccagtcac tgtgcaagac gttcaattat tcaacatatt tttaaagact 6360 ctgcaagaca tttattcaac tagttcagca aatacttact agtgtccaaa tattggggaa 6420 6480 gtgttaacat cactggatag tgtgctgctt aaacagttgt ggaaacttca tccttgtccc cttgcagctc attttccata ttctctcact aaaagcagat aatgaatttt acagactgtt 6540 ccatctttgt ctttttctgg aagctttctg cacctacttg tctgggctgt cattaggaaa 6600 acagtaacgc agaataaagt caaagactca gaaattagct gaactctcca atgatgtgga 6660 ctttgctttt acaggaataa ctaacttact ttgttaattt agtgacaatg gctctttgaa 6720 tcctagaagt gaattactgc cttggtataa tccaagctca tgttttcctt accctacccc 6780 caacaggtgc tgttgaattg tgggaactag atgagaatga gacacttatt gtcagcaagt 6840 6900 tctgcaagta tgagcatgat gacattgtgt ctacagtcag tgtcttgagc tctggcacac aagctgtcag tggtagcaaa gacatctggt gggtccctgt tctcattgct cctgtctcta 6960 agcctcctgt gggtgccttt cctatcctgt taacctcatt aggtaacatt ttgggcttat 7020 tctaagaatc cagtgactta ttttagcatg tctataaggt ttccttaggg attttgcagt 7080 ccatcgtaag tagaccatag cagcagtcca agaggcaaag acttggggaa tgttgattac 7140 7200 aggaagttct tgtttgaaca cgtttttatg ttgatagtgt aggtcaagat taaatgtctg 7260 tttgcttttg cttcttagca tcaaggtttg ggaccttgct cagcaggtgg tactgagttc 7320 ataccgaggt gagtattctt tcatttttag ccctggtgtt agctgttgtg tttttggact ttttgaactt tgctttgatg ttaggagcag caattccatg ttctgatagt tttcttgtaa 7380 7440 aacaatagtc aggctccggt atctactcct tgtccttttc tcaatttcct tgtttctttc 7500 tttctttttt tttaattcga ctagtcaagt gcagtagtga aaagggagga aagaatagaa caaggagttt aatctgtaac tgactgaaca atcaactgag ataactcact accttcagac 7560 cagccagttt ccctgtttct attgatggcc tcaccacctt ggcaacacag ggctcaaact 7620

cggtcctttt ccacctcttc tgttttccca ccatcggttg gccactaagt tctttttagt 7680 cttttccact ggtcagtcac cttcctgtcc atttctatgc ccgtattcac tttcaggctt 7740 taccttacac aggcagtggc actcatctct ccactagcaa tctagctctt ttggtctttt 7800 attagtttct tgtggcctgt ggattaaaat cccattttct tgtcatggca ttgaagccct 7860 tttactccat ttcctctctt caagcttact agatccttga cattcttgag ggataaatct 7920 tgagactttt aaatcttgaa cttttgagta tttaccttca taaaatgtct gttttctggt 7980 gagaaccatt actttttaa tgcccctctt tctgctcact ttcattaaca gcactagtag 8040 8100 ttaactttat cttgggagcc attctttgtg aagataatgt ctagagcctt aatgtgtaca 8160 tggttccaag gtttagatgc tgggggatca ctgtggttct ctcaatggct aagtgccttt 8220 ccctgccatt tctaacttca aagtacatga ctaagttata ggccagagaa atcactgact catatccaag gtccagtatc ctggaccctc agggtcactt ggaaatagtt ttacaataat 8280 8340 gttgaatgcc cagctgtgcg cagtggctta acgcctgtaa tcccagcact ttgggaggct 8400 gaggcgggtg gatcatatga agtctaggag tcagagacta gtctggccaa catgccgaaa 8460 ccttgactct accaaaaagt acaaaaatta gccaggcgta gtggtgcaca tctgtaatcc 8520 cagctacttg ggaggctgag gcccgagaag tgcttgaacc ctggaggcgg aggttgcagt 8580 gagtcgagat cacgccactg cactccagcc tgggcaacag agtgaaactg tctcagggaa aaaaaaaaag tcaatgttct atgtctatta tatttgcttt ttatttctta gacatatgat 8640 8700 gtgctttcct ggttaatgct aactcttttt cagcatttct gccatgcagc ctttttgtta gttctttgtg tttgtgtctt attccccctg ctgaattcca aatcctttat tatttttcta 8760 ttttttgtag agacagagtc ttgctatgtt gcccaggctg gtctcaaatt cctgggctca 8820 agtggtctcc tgccttggcc tcccaaagtg ctgagagata caggcatgag ccactgcacc 8880 8940 ctgccccaaa acctttgagg gtagaggaac catgtattca tcttttgtac accaccatgg tgcttgtccc agagctttgc ttttttcaag tgagcaataa attccttttc ttacttctta 9000 tcctgttggc tttctatgaa ttctagggct aggaaagaac tatggaaact ggtttaattc 9060 catccttctg cctcagggaa gggccacatt cagactacct gggaaagtct ggtaaaatga 9120 ctgtagaaaa ggtttccaca gcttctaatt aacatgtagc agtgacttta aagtttttta 9180 catgtagacc tcctaaaaca gttttgaaaa tctgtgcccc ctcatacatt tttaaactga 9240 tacctaaaaa tgcttattta agtagttgca gagaaggtaa tttctggcat ataatttatt 9300 gtgtgcttat ttcaagcata tatttgtcaa aattttagat tcgcaggtta acgctactta 9360 gtttgcatga atgtctacca aacagcctaa ctggcaaaag ccagtctgca ttgtaaagcc 9420 agtggaccaa gatagactaa attttctgtc agaaaaagtc tgactttgtt tttaaattca 9480 gataaagttg ttgaatatgt ccttatcaca atgatctatc atatttttta gttctcatta 9540 ttagacagaa acagagttaa gtcacagagc catacttgtg tttgtggtgt gactgaaaca 9600 agatcagccc ccttcattga attttaccta gatgctcttt ctttttgctc tttggttctt 9660 atggaaaagc cccttttgtc ccttagttta gaacccttat atttttatac ccctgagcat 9720 tgtagcgtgg aaagatctgg gatgaatgac aggtatgtgt tctttctatg aagtgggaga 9780 agagtgattg aaaacagagg cagttcaatt ttaagaaaga gaacattaga gaaattggct 9840 9900 ctcttaatac tattagcgcc cagaactccc tcaaaagttt ttgtatacta cttggaggtg tgtgtactcc agtatgaaga ctgctattct agaattattt agccctcaca tctaggatgc 9960 ctaaactgga aattcctttg ttattcttac taagccccta atttctcatt cattatcttc 10020 actaatacgt ttttttttta caaggctttt taggttttat aagtctataa acttctcctc 10080 ttagcttttg tctaatccat aatctcccac aaaatttgtt aaattgcatc atgagaccag 10140 ccctccctcc ctcctgcccc ttgattattc ctgggctggc cctctagtaa tgcttcagct 10200 tgttttctat catatttctc tttctctctc ctttatagct catgctgctc aggtcacttg 10260 tgttgctgcc tctcctcaca aggactctgt gtttctttca tgcagcgagg taagagatag 10320 ctccttcttc cctaaacaca ctccagccat ccataggcca aagtctctag tggggagact 10380 ttctggcctg caactgctcc tttggattat gaaatccttt ttctgttcca ccttcctcta 10440 ggacaataga attttactct gggatacccg ctgtcccaag ccagcatcac agattggtga 10500 gtctgagatt cattggtggg agaatagtac ttggaaccct gatagaagag actgtctttg 10560 gccagtgtca aagcatagtt gctagatgcc cagtgtagtt actgtgacat gagtgacata 10620 10680 atctccttct tttccagtga ggctctgcta accccattct gtgcaatgaa taccaagagg aagggccagt tcctgggtgg gtgatttact ttattagatg gtaggacaaa ggggccagaa 10740 10800 ttgttatcgt catgattcgt gcctgaaact tgcctgtgac tcgtgtccag aaagggcagg 10860 aggctgctgg gataaatggt tatgaggctc aaggatgagg acactgctgc cttagcaggg 10920 tttgggaaat caaataaagg tgctcccagg atttagagtg atatcatttg agaaactgct tcttctgtac tctgagtttt ggtccagacc ctcgtctctc ctttgcaggc tgcagtgcgc 10980 ctggctacct tcctacctcg ctggcttggc atcctcagca aagtgaagtc tttgtctttg 11040 11100 gtaaggcagc gtgtcagact tcatattgac tctgggaaag gggaggagga aaaagaaaga 11160 gctgactcca caacacacaa ggcccttgtt gctcagtctt agccctcatg gacactagat gaattatgaa ttgagggtgg ggaggtgggg tgatgccaac gtagttttag tgtagttttg 11220 gagaacatga ttattttccc agtggatttg atttttgatt gattgatcca gcttctgtat 11280

مصطلحة فاعتصم فالمالية الأوالية

THE PROPERTY OF THE PROPERTY O

tctgggcatg gctataagtc agtgatccac aaagcaagtg gattgctata tagcgaattc tgtccctact gtgggtaggt gtagcgctat cgtggtcatg aggctgtgta tatggtgaca tagtttgtgg ttaaaataat aactgcttcg ttcattaact taattttcac aatgatccag tgacttatta ttcctacttt gcaaaagaga aaactgatgc tcagaatggt taacttttac aagctcgagg aactaggatt caagtctttg gcacaaaagt ccatgctctt aatcactatg acatgttcct tctcttctac aggtgatgag aatgggacag tctcccttgt ggacaccaag agtacaagct gtgtcctgag ctcagctgta cactcccagt gtgtcactgg gctggtgttc tccccacaca ggtactgttc tttgtcatca ggggcctgat gggtataaat gggaacagtg agggtgtgtg tgtatgtttt caaagcatta gctgatgaag tagttcctta aagcagacag tgttctagct gaggtttcgg aacatcgaag atctcttaag tgtgaagtag aatcctttgg gagtcaaagg atttttcaga ttagatggtt tctgtctgaa atggctaaaa tgtgatttca ttcctgccca acacccaaaa tggttaatgt tgtgggcttc taggactgtg agattggaaa 12060 agcctgtgtt tctgggttat tgctgaagct atagagaggg accagatggg gtggttagtt 12120 gccaggatgg ttgtcaaccc taactttgct tcatttccct catctttact tgaaactttt 12180 agtgtggact tgtagtagcc agattagcca aaagtgggaa tcaggctgcc tctcctgggt 12240 cactttacag tggcggcagg gccggcccag ttaaggtttt gtcttgggat ccaggctgga cctttcacaa ccctctcctc catctgatag tgttcccttc ctggcctctc tcagtgaaga ctgctcactt gctgtgctgg actcaagcct ttctgagttg taagtgtgaa gtggaatcct 12360 ttgggaatca gggaaggga gcagtgggtg ggcgagtcat tttcctcttc agaaaactgt 12420 gttgtgcttt tggagaacag attctccatc tgtatccgaa gggacttggt aatggaagca 12480 ggctggctgt tgaccctgtc cattcctggg gcacattcac aaccccaagg acaagccgtg 12540 tccttggtag agggggtgg taggtgaaat ttttaagtct agccctccag cgctctccca caagggggcg gcagtctacc ctctcacata aagaactgcg tatgaaatgc agcctgctac 12660 agggtaaaag gcagcacctg gaagacctga attgtacttc cctccttgcc gtgatttgct 12720 gcctgttact gcccctcatc actgtcttgt tctatccagc atttcttcat ctatgaaaat 12780 agaagactgg attggatgac tggtgacatc cactgtggat agctacactg ctatcctggc 12840 gatgaggcca tacagttggt gaaatgtgtg taacacaccc aaaaaatgtg ccccagatgt 12900 12960 gttgggttct cttttttct ccaggtctgc ttttcttgtc tctactctgc cccgactttt tttctttctt ctaggtttag aagccaagcc cacagagact ttgtgagaga tgcgacttgg 13020 teccegetea ateaetecet gettaecaea gtgggetggg accateaggt egteeaecae 13080 gttgtgccca cagaacctct cccagcccct ggacctgcaa gtgttactga gtagattgga 13140 tttaagacaa aaagcaagtc ccccatgagt gtccacttct ttgccctgcc ctctcagctt 13200 gtgagacaac acaggagcct tctatagtat gttgatatgc tagatctgtg ccgttaatag 13260 gcatcgtctc tcagcctgag ggaggctgga ttctgggttc ctgtagtcac agggaggaaa 13320 agctttctta aaaatggaca tgtatgtgcg tgtgagtgtg tgtgtagatt tatagttttt 13380 ggtagtggca ggaataaaaa aaatccatcc tacatcttcc ctaagcactg cctctctctc 13440 acccccaaa acaagttgac gaaagggttt tatgtagctg tctatgagga attggccgtg 13500 tctgggtggg ttatgggatg tgggcatccc tgggttcttg gaagcagctc ttatgctact 13560 catagagatg ggattgactt tattttttta tagtgcttaa ttcaccatta tgagaaatgc 13620 ttccagtcac aaaaatgcag cccagctcac tctgaggaag aagcaggact tggtacggtt 13680 ttacacaact ccttaccatt aaactgaatc agaaatccat tttctggctg aataaaaagt 13740 ttggcttgcc tgtgtaatgc ccactccctt ccccctggct ccctagtgat gggacatata 13800 tgagagagaa gtgtttttct atcatagaca ccacagggga aagtttgggg atgaaggaga 13860 gcttaaaggt gtttcaatta agttagaaaa ctgacacagg ctgttgagaa ttctttgcca 13920 cttttcccac cccaaaacag catggggcct gacatettet gccctggtcc cetttetett 13980 gatgtggaaa gtctgaatgc agtatttata gacttctaag gttttaaaat ccagtatcaa 14040 gaagaaaatc agaaatactg gttggtgaaa taaagagttt aggcattgtt ggcctgtctt 14100 ttttgaagca tgtgtgttat gtgtagttag atatatttca cttatgtgag tcatcatggt 14160 gttggtcttg tagcccatta tttttcctgt gcttccccag cttcccaaag tagctagtta 14220 gaacttaagg taaatattta ttcttgggtt ggtggagtgg atattgccag ttaggagtca 14280 tggatcaatt actgattata ttgaaagtaa atataatcaa ttatgtactt ttgagctttg 14340 caggttcaat ttaggtaaaa atcacattat gaaactggga aagtctgaag gaatatgggc 14400 aaaatatttc tcagtaaagc ttccatgctt cacccttgac atgattaccc ttgagtaaaa 14460 catgggaatt tgtagttgtg tgatcctctg gcgttgatgt ggagtaggaa taaagtcttg 14520 14580 catcattttt ataatgtggg aggaaataga atgggtaggt acaatcactt aagttctgcc 14640 tctcgaagat aaaactttaa ttttgtggac acttagagaa agtaaggggt gggggagctt gaggtgagta ggaatttgca tagccctttt cttcctggac ttaagaatga tagagaaaaa 14700 actcagtgaa agagataagg aagcaaatgt gtggaaatgt gtgataagga aggaaatgtg 14760 tcaaggtggt tacaatatgg aagggaagca taggtttttt ttttcttttg ttgagatgga 14820 gtttcactct tgctgcccag gctagtgtgc agtggcatga tcttggctca ctgcaacctt 14880 cgcctcctgg gttcaagcaa ttctcctgtc tcagcctctt gagtagctgg gattacaggc 14940

```
taatttttgt gtgtttagta gagacagggt ttcaccctgt tagccaggct ggtctcgaac
tcctgacctc aggtgatctg cccgccttgg cctcccagag tgctgagatt acaggcatga
                                                                   15120
gccaccgtgc ccgaccagaa agcatggttt ttgaaggacc atattttatt gtaaaaaaaat
gttttggttc agatagatgt gtgctgatgg gagtaattca catctatcag tgaccaccac
                                                                   15240
caagatattt ataaacctta tcaaatacag taggaagagc aaccagcaca attttggata
                                                                   15300
aatgtatatg ttgcagtgaa caaagaagat agtttaaaat aaaagatgac cacagaataa
                                                                   15360
ttagaaatgg tactgtcaca tatggagtga tttgctaggt ccttcacttg aggatagttc
tagtagagtg agtgcagagc tgatgacaag ttgaaatgag atcaatctat ttgtttaaaa
                                                                   15420
atatacaaat attttgcatt taatttcatc ggttaaaatg tctaaacatt agagtaaacc
                                                                   15480
catttcccta tctacatcct tactctgaag tccactaatc aaacctactc ttccacagct
                                                                   15540
gttctctggt ccaccaaggg ctatgaggct caccccttgg atggtgctca gaaccacaag
                                                                   15600
gaatactgaa gaagccttgc ctatgatttc aggtggcatc agacattggg ctaattttca
                                                                   15720
aggtgtctct ccttcccaac aggacagtcg gagtctggtt ctttcataaa tagctatatg
                                                                    15727
gatctta
<210> 12989
<211> 23936
<212> DNA
<213> Homo sapiens
<400> 12989
                                                                       60
ttttttttt ttttttcta gatggagtcg aggtctgttg cccaggctgg agtgcagtgg
                                                                      120
cgtgatctca gctcactgca acctttgcct cctgcgttca agcaattctc ctgcctcagc
ctcctgagta gctgggatta caggcgcctg ccaccatgcc cggctaacct tttgtatttt
                                                                      180
                                                                      240
tagtagagac agggtttcac tgtgttggcc tggctggttt caaactcctg acctcaagtg
                                                                      300
```

atccgcctgt ctcggccttc caaagtgcag gcattacagg tgtgagccac tgtgcctggc 360 ctgctgcatg gattcttaag agtgatttta tgacactctg agtccataat attttctata 420 ggcatactac taaaataata aagtcaatga tatgaattga tatataatac tccatttagt 480 tattttaaga gtactagaaa gctttacata tctcataacc tatcagccag aaacagttca 540 ccactgaatg gtctcataaa caagacagta gttcaatgac atctttaatt tttacccata 600 tgacaaaagc tgagtatttc agagaattat acaacttgaa aaaccctgtt tcattcaatt gtcactttat tgcaagatgg tagaattaat tacaaattta aactataacc tgttaatctt 660 720 tagtcaggca gcaagttttt ataaaggcaa actgcttatt cagaagtgat cacggaacaa 780 ctcaaaggca gagcaagaag gatgagaaac atctgactgg ccgatagaga tttcgttctc 840 tcactatatg aaacaaactt ttcattttta ggaagggtaa actataactt cagtagacac 900 caacacagaa agactttgtc aaatagacta gtttccattt agtcagtcaa ctgtttctag ctgtctcaat tgggatagat acatttacat aactggctgt gcttgagcct tctttgccag 960 1020 cagctttagg tccgcaatgc acttggcaat tgtctccttt tcctgtgata aggaaagaga 1080 aatctggtta gacctttcca aaacatagaa aagtatagag tataaacacc attattctaa 1140 aagacacctc ctaccagacc agaacctcaa gatgattact ggcttaacac tatacagcta 1200 ctagacaggt ttagaagtaa aattaattaa cacagaggag atataattta ttttaagcaa atccaggggg ttagttaaaa ttccctggct cacagccttt atgggtgaaa cctgtataga 1260 atttgaggcc agatattcct gtaaccatct gccactgatg ttggcttgta caaccaacag 1320 1380 ttgcttgaaa aagaccaatt caacaaatat tagtaatata taaatgttaa gaatgaaaat 1440 aatttttaat ctcttttcta gacttctttt gtattttcta agtttcttaa gtaagcatat 1500 ttctaatcct gtataggtta tgctgaaaac aaccagaaat acttaaatgt tataaactcg 1560 agaaagaaaa aaaaaatcaa gtcatattaa agcaaaaata taaatgaaaa aaaattaatt 1620 cagtttaagc aaatagaaaa catttccgtt caaaacagac aagttatgca ggtgaaaaga 1680 1740 agaaatggaa tgtcatggaa ttagaaaatg gaaggggctt agaaatagcc ttgttcagtc ttttatttat tttttgaggc agggtctcgc tctctcaccc aggctggagt gcaatactgc 1800 1860 aatcacagct cactacagcc tatgcttcct gggctcaaga gatcctgtca cctcagcctc ctgagtagct gaactacagg cgtttgtcac cgcacccagc tactttttaa attttttgta 1920 1980 gagacaggat ctcgctatgt tgcccaggtt ggtcttgaac tcctggcctc aagtgatcct 2040 cctgcctcgc ccttccaaag tgttgggatt acaggtgtga gccaccgtgc ccagcccagt ctattttata gagaaattaa atatatcagt taatgttacc caaatttaag gaaagagaaa 2100 2160 agccatcctg acaggtatgc agcatcttcc tgcttatcac tatccagaaa aacaaaccgg ggttacactg ctacttctag gctaaagact ccttgccagc tattcctacc ttaacaaaac 2220 2280 atcagcagat acttgttaag agataccagt acaacatcag aacctacaaa aatgttgtgt

2340

acctgctgtg tggagatgct ttgcaccacg tgcttctcca cccaatttat catgtgttct

2400 tgttcctttc gacgcatcat gttctgcaca gatatatgat agtccaggcg attctttact tccttatata ctctatacag tcgttcccgg taagtaactt ccaaagccat agcaatgtta 2460 ttctggggca aaattaagaa atgataaata ttgtttgtat acttgaagga atacttctac 2520 tctgaagatt ctgccagtga gaatgcccac ttcttttgta ttttacgtga aattctttta 2580 2640 tttaataggt aatatgtacc tagaaattat aacagcatat ggcaaaaaca tatttaaaag tgatgctgta tgaaataagt ctccttcagc ctcccccata ggccattaac ttcctgtatt 2700 tcttgtattc cctcccagaa atatttaata aaaatatagg tatacccatc aaaatatagg 2760 2820 catatacaca tcacttttat taattatgac acacaaacct acctcaattt taagttacac tggattccac tatactggta ttctataatt cattttttgg tactacaaat aatggtgcat 2880 acattgtaga tttgtctttg tgtttatgtc ataatacttg ctggatcaaa taatagttaa 2940 catttgtaga gtactgacta cactctaaac actcttgtgt ttagattcaa ttaaaccttg 3000 3060 taaccaaacc atggcatagt tattataatt gtatccattt tgcagtgagg aaactgaggc 3120 agaaattagg aaacttgccc aaggttacag agctaataaa ctgtgaagcc aagatcagca 3180 tacaqqcaqt aaggctacat aaggccaagc tcttacatat ctctacttgg ctaacccata 3240 ggcatcacaa accaatgcat accaaactga aggctattgg caacaaggca atcagaatga 3300 tccttcaatg actttctctc attcagagtc caagtcaaag ttcttatagg agcctaaggt 3360 ctttatatat cacagtecca ggeetecete tateteettt tatteteece egaccaatte 3420 tacttcagct gtatgggcct tcttactttt ccttgactgt atcaagcaaa cttccaggtt 3480 tagggcattt gcaactgttc ttccctcagc ctggaactta tttccccaaa aatccacata 3540 ctttgcacta ttagttcttt caggtgtctg ctcaaatatc atattagaga catttcttga 3600 atgccctata aaaacagtga ctccctcctc ctgcaatttt gtagaaaggg ggtctatgtt 3660 gcccaggctg gtctcaaatt cctgggctca agtgatcctc ccgccttggc ctcccaaagt 3720 gctgagatta taggcatgag ccaatgcgcc tggcctgcaa tctttttaat actagtttat 3780 ttttctatct ggcatttatt acctgttgac atttgcatct gttcaattat ttatttctg 3840 tgcttctccc aaaggctggc tagaaaataa gactccatga aggcagaagc tttttgttct 3900 ccactatatt ttcagcactc tgccttgatc agaatatcta cacaggaaga actcaataaa 3960 tatctatcaa gtaaatgtaa ataaataaaa acctaaatta ctatcatttg actcttagga aaaagctaca ttttccaata tggtttttta aaaaagccaa aatatatgta tgcatgcatt 4020 4080 cacgtgtgtg tatatactat gcaagaagca ggaagcattc tccctttgta acctaaatat acatggaatt aacattttct gagattttca aatatccatg tgcttaagag tctttaggga 4140 4200 tcttgtttaa aataatacag attctggata gcccctaaga aaggttctga ttccataagt cttggaaagg gacaaaaaaa ttaacaccaa agataactct aatccatgtg gtaccaagac 4260 cacattggcc aagatcctaa acatttcaga tgcttagtat cttggccaat attgagaaat 4320 attggccaag atcctaacta tttcagatgc ttactctacc ttagcatctc atttttcatt 4380 tcattttaat ataaaacttc aacataacag cacctcactt ttaaatatta gccataaagt 4440 acaaggctca aaataaaaac agtaataaca aaatacttga acatattcct aaagattgtt 4500 ttggaagctg catattttag aatctaatca tgttctgacc atgataaaaa gctctactgc 4560 4620 tatctgaatt tgttgtttgt gtgtgtgtgt gtgtgtgt gtgtgtttga gagagtcttg 4680 ctctgttgcc taggctgaag tgcagtggtg ggatcacagc taactccagc cttgacctcc tgggtgcaag cagtcctgct gcctcaccct cctcaagtcc taggattaca ggtgtgagcc 4740 actgtgccct gcctgctttg tggatttaga atgtacagta tcagatttcc ttacagcaaa 4800 gatgttaaga tgttcttgca gcaagtgtgt atgaaataca caggatgtat tttacctagt 4860 4920 cttccttaca cagtgcatgc catttttaaa tcagctttaa cttaatgact atttcatttt 4980 gtgtggatcc aaaatttttt ttaatagctt ctatagattc taattttata ataatttgaa ctatttttcc acttgacagt tcttaaatgt ttgaatagcc gtgaatgcca actcctacac 5040 aaatcttctc ttttctaaat aaaatacgtt caatctattt aaccattctt cataaaaaat 5100 tctgaattaa aaaaatgcac acaacaagta acttcattct tcctagaaac ttctgaaacc 5160 taccctttgc acatcaaaaa ggtaatggcg cttctgaacc agtgcctgtt gtgacttctc 5220 cgtatcaatt gcattctgga tgtgttggat ggaagcctgc ttcgcctctt ctagttgggc 5280 aagtttttgc tacaattgtg atagcaacaa caaagatcag tgaaagcaca aagggtaaaa 5340 aaaggagatt catttcatgc ttcttcaaag ttgtatatct catttgtaaa aacacccaca 5400 aagaaacata gaaagaaacg cacaaatcct taaaaagaat tgcccataat aactatagaa 5460 tatcttttga atgattaaac tatagaaaag ctaaagtgtt tagtagatat aaaaaaatta 5520 tctcaaatta gtaactaacg ttaacactta tttgaagcat tagattcatt tctatatgtt 5580 gctcccctaa cactcatatc aaaaatatca ctagatgacc ttcatgtttc tgctagtcta 5640 aaataggaaa taaagtttat ggttcttacc tcattgagtt tatcagcaaa gtctgcaaca 5700 5760 aagggaccat attttttaat tccatagacc attacaccta gtactgatag ggcagtgaag gtctctgcgc taatcacata tatttctttg gataaagcgt acaagataag cccagttccg 5820 agtacatagg gtcctaaaag aagaaagagt tattttatga agggatatgc tatgcctaaa 5880 agagggaaga tagaaaggta cttctatatt tgattagctg aaggcaaagt aatgacttaa 5940 ttagattcaa agacaaaaca ctggattggg aagcagtatg gtagagttga aagaacaaag 6000 atatggactc agggaaatct gtatactgac tctacaattt taaagaaact gagcaatcta 6060 aataatetet gaatttagtt eettatttgt aaaatgggga eagtaeette tteagtetga 6120 taaatttgag aaataatgtt aagcacaata ccccgcacag taaattaaac tattctacaa 6180 agatgtcaga taactttctg aagtaatttg tccagcaaaa tatactattt atcgaatggg 6240 acactagacc ggataaaatt tacacaagaa acaagcaaaa aacaactaca aagtgatatg 6300 tatataaaag gatgaataaa tattaggatt ctcaattcct gtagcaccta attacaatgc 6360 ttcaaatatg gctttttctt taaccaggcc atgtgttctg aaaggatgca aaccatgatt 6420 tacatttatt tagtctttcc tccgcgcctc acaggatgta agggaggccc agagcaggct 6480 tttaggaaag cattttacag tatttctgag aatcatagga tggcaggatg tatcataaga acaacagggt tacaaactca aatacatttt acctggtttc ccatacaaag ttccaacagt tttttttaac tgcctttaat atacaaattt taaatatgaa tttgcaagaa acatctatca 6660 6720 tatgtaacat tgttatcacc tatggacgtc tgaggagact aatgtttcta gcaatttcag 6780 ttaggaaaat gctactttag gtgactccag ggctaaaaaa aaaacaatct tcggtttcca 6840 atgttccagt catagcaata cttgggtatg ggccaagaaa ggcagtacat gtagtagaga 6900 gaatcataaa cttaatcagg ggactcttgc cttacatggc ttcattttta ttcgtaccct 6960 tttcattacc taacagtata ttatacagtt actcatttct ttattgtcat cctacaacag aatgtatgtt ccaggacagc aggcacttaa cactgttcaa cactgtatga ctgcaacagt 7020 7080 gcctggcata aagcaggcat caaaaaattt gatctactaa caaacagaga taatgctgta 7140 7200 ttgttacaat ttccttttaa aaatagctga cttgcggctg caggcgggtg gctcaagcct 7260 gtaatcccag cactttggga ggccaagatg ggtggatccc acaagcccag gagttggaga 7320 ccagcctggg ctacatggtg aaagcccgtc tctacaaaaa aatagaaaaa tgagccgggt gcacgccaag tcccagctac tcgggaggct gaggtgggag gatgacctga gcctggggag 7380 gtggaggctg cagtgagctg tgatctatca ctccatcctg ggtgatagag taataccctg 7440 7500 cctaacttga ttttagtggt gccatcaaaa catattacca gagactaggc aaaaatgctc 7560 acctgttaca ccagttttag gataaagaaa ctggaagaat tcctcaggga tcagtccata 7620 7680 acgaactttt cctccgtatt caggaagagg tggtacaggg acaaggtgtg gctgccctgt 7740 atgaaaggtc cttgttgcct gcaataccct acaggtagta attgtacaaa tgtaaagcct gtttctttaa ggagaataca gtgtatgaat aatgagcaga aacaataaat agggttgata 7800 7860 attgaggcag ttttctaact ctcataatgg aaagagaatg gactgggaat gggaaggtta gggtccagta atcagctgtg acaacagcaa agaattaatc acagacattt aaccttctac 7920 ccaatactgg aatcccttct atcagccttg cagatcatct gtctagcact ttgtatgtct 7980 atcattagca ctgaaatatg taagaatgtg gacgtggcgg tcagataggc atcttgagtt 8040 caaatcctag acctgctcct tgactttgag taaagaactt aagcttttgt aatctcagat 8100 ttctctcagt aaaatggaaa tagaagataa taccttatat ggttgttgag aggattaatt 8160 gagttaatat atgtgacgtg cttagaatga tgcctggcac atggaaaagt tctacgtaag 8220 8280 tggttagcta ttatatgcct gatatgttgt aagctcctgg acctttttga atactctctt tgatgagagt gctaaacact atatgtaaca gactttttca gtactgggta gctctaatta 8340 tgttcatctt tgaattgaga tgatacatac attcttggaa cctcaatcca ttcttagttc 8400 taattttgct tttctatgta agataacaca catgtacctg ggtcaaacat ctgttccctc 8460 acaatcctga ttgcccgtaa ggacttctct ggttttatct ttttttttt ttttaatga 8520 ggtatacaga actgaatata atactttaag tatagtctgg ccaatttatt catcctacaa 8580 atacttattg agaacttact attgccagta ctgagcttga acaattgaac tattatcaac 8640 agtggatttg gaaactattc ttgtattaaa gcagcttaag actacacttt taacagttac 8700 agcatactga tgtctcctta agcttctgat gaaataaaat ctagtccctt tatatctgct 8760 gtcatttagt ctccttcaag ttttcagtgt atttctgtcc cacttcctac cctccattcc 8820 tocaatotot caacttotat otoottgtaa tataagaatt tacattattt catttatttt 8880 ggtacaatgc ttatcttttg aatattattt ctgcctccaa atatattagc taccccacca 8940 ggttttgaaa tctgagaatc atgcttgaga ttccttcatt tacatcaagg tttctcaatt 9000 9060 cagcactacc gacgtttgaa ctggatattt ctttgttgta agaggttgtt ctgtgcattg tagaatgtct ggcagtatct ttgtggcctt tatacaatag gtaccagtag cccctccctc 9120 9180 cccgacccat cctatggtaa cactgaaaaa tatctccaga cattgctaaa tgtcacctgc 9240 aggcaaacca ccccaggcta agaagcactg atttaaatca tagcactaaa tggtatgctt 9300 aggctgacaa gtctccctaa ctagctacct tagttcaagt ccttatcacc tcttgcttag 9360 tgccctatca cccaggcggg agcacagtgg catgatetca geteactgca acetecacet 9420 9480 cccaggctca agtgattctt gtgcctcagt ctcccgagta gctgagtagc tgggattaca 9540 ggcgtgtgcc accacacca gctattttt tttttatttt taggagagac ggggttttgc catgttggcc aggctggtct caaactactg tgatctgccg tctcggcctc ccaaagtgct 9600 gaaattacag gcgtgagaca ctatacctgg cctctgcttc ttattaaata ccccaactta 9660

9720 aacctagccc actcacatta ctgccaatgt ttctaaaatg aaaatctgac ttgaaaactc 9780 aacaggetet etectgeeta cagaaaacta ettaatataa catacataat etagtaeetg 9840 tcattttttt tttttttga gacaaagtct cactgtgtca cccaggctgg agtgcagtgg 9900 tgccatcact gctcactcgc agcctccacc tcctgggctc aagccatcct cccacctcag 9960 ccttcccaat agctgggagt acaggtgtac accacaatgc ccagctaatt taaaaaaattt 10020 ttaaaaattt ttgttgtttt gtttttgtct atgttgccca ggctagtctt gaactcctgg gctccagtga tcctcctgcc ttggcctcgg gattataggc atgaaccacc actgtgcctg 10080 gtcctgccaa attttataac cttatcttcc ttcattctct tactctcctg gaattactta 10140 acagctctca aaaacaaaca aagaaacacc acaaaaaaat tgccttatgc tgctccttct qccttgtatg cccttcatac catgacttta tagcaatgac tatcaagacc aatcaggagc aatqactacc aaqaccaatt agcctccaga tttgtaaagc cctccccca ttttgggcta 10380 acattcattc ttttaatcaa ttaaaaaaaa catttactga ctttctacta atgctaggca ccggtaacat ggcaatgaac aaagctccag ccttcaacat tctagtgggg gtatgggaag 10440 10500 ggtgagtgtg tatctccata caaaatttca ggcagctcta agtgctatgg agaaaaactg 10560 agcaaggtaa gcggataggg agcaacaaaa tggggaagag ttttttggta gggagtcaga 10620 tgacatttga cccaatcatc tggggaaaag agagaagagc aagtagaaag atattgaggc 10680 aagaatgcgc ttggtagttt tcagaggaac accaaggttg gagaatgagc taaaaagaga 10740 ccacaaggag atggtgtcaa gagataggat ggaatcaatt catgttggac cttctgggtt 10800 atgctaagtt tggattttat tcaagtggga tggggggctc tggaaggcct tggtggggga ttgacataat cctcctggct attatgagaa tgggctgtaa tgggacaaga atagagatgc 10860 aagactaatt aagagactac taaaatacct aggtgaaagt ttatagtggt tcctacttta 10920 gcggtagtgg aagcagcagt cagagtccaa atttctagag gaagagcctt gctgaggtac 10980 tggacatgga gtgtgaaaga aaaccaagga tattccttgt atcttgtaag tataagttat 11040 ttactacctg gtattacaat tatttgttta ccagtctgta tggggtcctt tttcttctaa 11100 gttggaagca gtcaattata gccttacttt ttgcatacat gagacttaat tatagataag 11160 accacttttt caagtccatt ttttttcaat ttgagttacc gtattttgca agctttagaa 11220 ctaagtttgg aagtaaaaag agaaatctct aggaaaatgg acatgtctta tggaacaatt 11280 ttaacggtaa cagctgctaa atttactaag cacacgctat gtaccaagaa ctgtttttga 11340 gtttcacagc aattgtctct taattctcaa aagccacaat gcactattat cgccatttta 11400 tagatgagga aattgaggtc acacagccag taagtggagg ggccagggac cctgtactgg 11460 ctgtggagcc ctcactctaa accaatactc ttaaggtgcc tcccattcct agactgtgag 11520 ctccatgagg gcaggtaatt agccatactc attcttgtat ccttggttat gtttttaggc 11580 aacataaata tttactgaat caatgaatga tttctctgat tgttatcata tggcagcaaa 11640 11700 aactaggtat ctgggaaacc gactgtaaac aacatgcttt actgttttat tgaacaaaat ttattcttgg gtatgtcatc tactcggatt caggctgtgg aagctacatg tcataaggtc 11760 ccaagggaag gtcacaaagg agtagggcgg gtatagaaga cagcaaaacc aatttctagt 11820 ttagttagaa tacgttactt atcctgctaa aatcttggtc attaggtgac atgagagcgt 11880 tcctggcagt tacaggaaca agtgtcttgt ctgaaagagg gtttaagtgt cccaaaatta 11940 tcggaaagaa atttctgacc taaagctaag ggggtggggg caggaatcgg gaaataaaag 12000 gtagtgaaaa caaagacgaa agggagcatt atcctcacac ttaccctgga cctaggaagg 12060 ctgcattctt cagagagggg gctgcagata gacaaggcga aggtcagcaa agtcaaatga 12120 aatctggttt gccctttcct tacccccgcc aggctctatc actaagccta tgtacccctc 12180 tttcccgtcc ctcaagaccc cacgctccct tccgaactgc actgaccact cgcctctcag 12240 gcccgtgtcg ctgcgccctt ctcccctccc tgtcacccct agattcgctt ctttccaatc 12300 actctgatag tccagagcag ggtctatacc ccttacccgc tgtggcggcg gcggaaagta 12360 ccacccggga cagcatggtc aacgaaagtc caggtagcaa tcttagcgtc cctgtgaccc 12420 cgataggaga atctgtcagg gcaggaccaa gatggccgct cacaagtctc gcgagatgaa 12480 aattttgtac tcttccttca actttccttg ggagattttt aaaaaaaatt atcgcgagaa 12540 gagtcaagta acgctgagag cctatcgcat gagggcgaca gccggaaagc aggatggagc 12600 catagaagca attctcgcga gaagtagagt tgcggttccc tcgggagagg ggcggaggct 12660 cagaggtgca ccacgtgggg tttgctgccg gagcggagtc tccggccggc gtccagtttg 12720 12780 cccggcggcc cgggagtgga atcttccccc aaatgcgccc gcctgcatgg aacggcagtt 12840 ggaggctgcg cggtaccggt ccggtgagcc gagatcccgg gcctgggagc tcccttaccc 12900 cggcccaggg cgcccctccc cggagactga ccctcccagc ccatccccgc cctgcatgtt 12960 13020 atcctgaccc tgggtcgcgt caccgagctg tccccagccc tgccccgcgt tcctgagctc agatccagac ccggccggaa cgctgttctg tgcggtctcc atggaggcga acccttctac 13080 13140 ccttcacgcg ctgacagctt gtaccccccg tagatggggc gcttctcctc ggggcctcca gcctgagtgg gcgctgctgg gccggctccc tctggctttt taaggacccc tgtgccgccc 13200 ccaacgaagg cttctgctcc gccggagtcc aaacggaggc tggagtggct gacctcactt 13260 gggttgggga gagaggtatt ctagtggcct ccgattcagg tgagtcacta tcccattatc 13320

13380 cacccccacc cccgggtgga acggtagaat ggagacttgg ggtaccgtag ggttgagctc aatatctaac gtcctatact cagtgcttgg aggagcctga gagtgttggc cccgaatgca aactettgtg taggtgggaa atacetttte taaaatteta aattgtetgg tgagatttee 13500 tagaaaaatc cgtaacaaaa ttaagcaacg gattggaacc atttttcttc tgtgtaacct 13560 gccccttaac ccccacagcc cagaccaagc ataatcttga ttttaagatg acattgaagc 13620 caatctgtgc tacatgtctc ttcccatttc ttaccgcttt cttgtcttca ttctgctttc 13680 13740 tttttgttga ctgttaggct tagcgatgca ggctttggca ttttttttt ttttaaatca gaatttggaa gttggccggc attgcatgga agtttaaagt cccagttttt gatagattta 13800 13860 acctctctga cagttgagct tgaacactac ataatcaaga caacttttgg cggattctct atacttaacc agtcactgtg caagacgttc aattattcaa catattttta aagactctgc aagacattta ttcaactagt tcagcaaata cttactagtg tccaaatatt ggggaagtgt taacatcact ggatagtgtg ctgcttaaac agttgtggaa acttcatcct tgtccccttg 14100 cagctcattt tccatattct ctcactaaaa gcagataatg aattttacag actgttccat 14160 ctttqtcttt ttctggaagc tttctgcacc tacttgtctg ggctgtcatt aggaaaacag 14220 taacgcagaa taaagtcaaa gactcagaaa ttagctgaac tctccaatga tgtggacttt 14280 gcttttacag gaataactaa cttactttgt taatttagtg acaatggctc tttgaatcct agaagtgaat tactgccttg gtataatcca agctcatgtt ttccttaccc tacccccaac 14340 14400 aggtgctgtt gaattgtggg aactagatga gaatgagaca cttattgtca gcaagttctg caagtatgag catgatgaca ttgtgtctac agtcagtgtc ttgagctctg gcacacaagc 14460 tgtcagtggt agcaaagaca tctggtgggt ccctgttctc attgctcctg tctctaagcc 14520 tcctgtgggt gcctttccta tcctgttaac ctcattaggt aacattttgg gcttattcta 14580 agaatccagt gacttatttt agcatgtcta taaggtttcc ttagggattt tgcagtccat 14640 cgtaagtaga ccatagcagc agtccaagag gcaaagactt ggggaatgtt gattacagga 14700 agttcttgtt tgaacacgtt tttatgttga tagtgtaggt caagattaaa tgtctgtttg 14760 cttttgcttc ttagcatcaa ggtttgggac cttgctcagc aggtggtact gagttcatac 14820 14880 cgaggtgagt attetteat ttttagecet ggtgttaget gttgtgtttt tggaettttt gaactttgct ttgatgttag gagcagcaat tccatgttct gatagttttc ttgtaaaaca 14940 atagtcaggc tccggtatct actccttgtc cttttctcaa tttccttgtt tctttcttc 15000 ttttttttta attcgactag tcaagtgcag tagtgaaaag ggaggaaaga atagaacaag 15060 gagtttaatc tgtaactgac tgaacaatca actgagataa ctcactacct tcagaccagc 15120 cagtttccct gtttctattg atggcctcac caccttggca acacagggct caaactcggt 15180 ccttttccac ctcttctgtt ttcccaccat cggttggcca ctaagttctt tttagtcttt 15240 tccactggtc agtcaccttc ctgtccattt ctatgcccgt attcactttc aggctttacc 15300 ttacacaggc agtggcactc atctctccac tagcaatcta gctcttttgg tcttttatta 15360 gtttcttgtg gcctgtggat taaaatccca ttttcttgtc atggcattga agccctttta 15420 ctccatttcc tctcttcaag cttactagat ccttgacatt cttgagggat aaatcttgag 15480 acttttaaat cttgaacttt tgagtattta ccttcataaa atgtctgttt tctggtgaga 15540 accattactt ttttaatgcc cctctttctg ctcactttca ttaacagcac tagtagttaa 15600 ctttatcttg ggagccattc tttgtgaaga taatgtctag agccttaatg tgtacatggt 15660 tccaaggttt agatgctggg ggatcactgt ggttctctca atggctaagt gcctttccct 15720 gccatttcta acttcaaagt acatgactaa gttataggcc agagaaatca ctgactcata 15780 tccaaggtcc agtatcctgg accctcaggg tcacttggaa atagttttac aataatgttg 15840 aatgcccagc tgtgcgcagt ggcttaacgc ctgtaatccc agcactttgg gaggctgagg 15900 cgggtggatc atatgaagtc taggagtcag agactagtct ggccaacatg ccgaaacctt 15960 16020 gactctacca aaaagtacaa aaattagcca ggcgtagtgg tgcacatctg taatcccagc tacttgggag gctgaggccc gagaagtgct tgaaccctgg aggcggaggt tgcagtgagt 16080 cgagatcacg ccactgcact ccagcctggg caacagagtg aaactgtctc agggaaaaaa 16140 aaaaagtcaa tgttctatgt ctattatatt tgctttttat ttcttagaca tatgatgtgc 16200 16260 tttcctggtt aatgctaact ctttttcagc atttctgcca tgcagccttt ttgttagttc tttgtgtttg tgtcttattc cccctgctga attccaaatc ctttattatt tttctatttt 16320 ttgtagagac agagtcttgc tatgttgccc aggctggtct caaattcctg ggctcaagtg 16380 gtctcctgcc ttggcctccc aaagtgctga gagatacagg catgagccac tgcaccctgc 16440 16500 cccaaaacct ttgagggtag aggaaccatg tattcatctt ttgtacacca ccatggtgct 16560 tgtcccagag ctttgctttt ttcaagtgag caataaattc cttttcttac ttcttatcct gttggctttc tatgaattct agggctagga aagaactatg gaaactggtt taattccatc 16620 16680 cttctgcctc agggaagggc cacattcaga ctacctggga aagtctggta aaatgactgt agaaaaggtt tccacagctt ctaattaaca tgtagcagtg actttaaagt tttttacatg 16740 tagacctcct aaaacagttt tgaaaatctg tgccccctca tacattttta aactgatacc 16800 16860 taaaaatgct tatttaagta gttgcagaga aggtaatttc tggcatataa tttattgtgt 16920 gcttatttca agcatatatt tgtcaaaatt ttagattcgc aggttaacgc tacttagttt 16980 gcatgaatgt ctaccaaaca gcctaactgg caaaagccag tctgcattgt aaagccagtg

17040 gaccaagata gactaaattt tctgtcagaa aaagtctgac tttgttttta aattcagata aagttgttga atatgtcctt atcacaatga tctatcatat tttttagttc tcattattag 17100 17160 acagaaacag agttaagtca cagagccata cttgtgtttg tggtgtgact gaaacaagat cagcccctt cattgaattt tacctagatg ctctttcttt ttgctctttg gttcttatgg 17220 aaaagcccct tttgtccctt agtttagaac ccttatattt ttatacccct gagcattgta gcgtggaaag atctgggatg aatgacaggt atgtgttctt tctatgaagt gggagaagag tgattgaaaa cagaggcagt tcaattttaa gaaagagaac attagagaaa ttggctctct 17460 taatactatt agcgcccaga actccctcaa aagtttttgt atactacttg gaggtgtgtg 17520 tactccagta tgaagactgc tattctagaa ttatttagcc ctcacgtcta ggatgcctaa 17580 actggaaatt cctttgttat tcttactaag cccctaattt ctcattcatt atcttcacta 17640 atacgttttt tttttacaag gctttttagg ttttataagt ctataaactt ctcctcttag 17700 cttttgtcta atccataatc tcccacaaaa tttgttaaat tgcatcatga gaccagccct 17760 ccctccctcc tgccccttga ttattcctgg gctggccctc tagtaatgct tcagcttgtt 17820 ttctatcata tttctctttc tctctccttt atagctcatg ctgctcaggt cacttgtgtt 17880 gctgcctctc ctcacaagga ctctgtgttt ctttcatgca gcgaggtaag agatagctcc 17940 ttcttcccta aacacactcc agccatccat aggccaaagt ctctagtggg gagactttct ggcctgcaac tgctcctttg gattatgaaa tcctttttct gttccacctt cctctaggac 18000 18060 aatagaattt tactctggga tacccgctgt cccaagccag catcacagat tggtgagtct gagattcatt ggtgggagaa tagtacttgg aaccctgata gaagagactg tctttggcca 18120 18180 gtgtcaaagc atagttgcta gatgcccagt gtagttactg tgacatgagt gacataatct ccttcttttc cagtgaggct ctgctaaccc cattctgtgc aatgaatacc aagaggaagg 18240 gccagttcct gggtgggtga tttactttat tagatggtag gacaaagggg ccagaattgt 18300 tatcgtcatg attcgtgcct gaaacttgcc tgtgactcgt gtccagaaag ggcaggaggc 18360 18420 tgctgggata aatggttatg aggctcaagg atgaggacac tgctgcctta gcagggtttg ggaaatcaaa taaaggtgct cccaggattt agagtgatat catttgagaa actgcttctt 18480 18540 ctgtactctg agttttggtc cagaccttcg tctctccttt gcaggctgca gtgcgcctgg ctaccttcct acctcgctgg cttggcatcc tcagcaaagt gaagtctttg tctttggtaa 18600 ggcagcgtgt cagacttcat attgactctg ggaaagggga ggaggaaaaa gaaagagctg 18660 actccacaac acacaaggcc cttgttgctc agtcttagcc ctcatggaca ctagatgaat 18720 18780 tatgaattga gggtggggag gtggggtgat gccaacgtag ttttagtgta gttttggaga 18840 acatgattat tttcccagtg gatttgattt ttgattgatt gatccagctt ctgtattctg 18900 ggcatggcta taagtcagtg atccacaaag caagtggatt gctatatagc gaattctgtc 18960 ctactgtggg taggtgtagc gctatcgtgg tcatgaggct gtgtatatgg tgacatagtt tgtggttaaa ataataactg cttcgttcat taacttaatt ttcacaatga tccagtgact 19020 tattattcct actttgcaaa agagaaaact gatgctcaga atggttaact tttacaagct 19080 cgaggaacta ggattcaagt ctttggcaca aaagtccatg ctcttaatca ctatgacatg 19140 ttccttctct tctacaggtg atgagaatgg gacagtctcc cttgtggaca ccaagagtac 19200 aagctgtgtc ctgagctcag ctgtacactc ccagtgtgtc actgggctgg tgttctcccc 19260 19320 acacaggtac tgttctttgt catcaggggc ctgatgggta taaatgggaa ccgtgagggt gtgtgtgtat gttttcaaag cattagctga tgaagtagtt ccttaaagca gacagtgttc 19380 tagctgaggt ttcggaacat cgaagatctc ttaagtgtga agtagaatcc tttgggagtc 19440 19500 aaaggatttt tcagattaga tggtttctgt ctgaaatggc taaaatgtga tttcattcct 19560 gcccaacacc caaaatggtt aatgttgtgg gcttctagga ctgtgagatt ggaaaagcct 19620 gtgtttctgg gttattgctg aagctataga gagggaccag atggggtggt tagttgccag 19680 gatggttgtc aaccctaact ttgcttcatt tccctcatct ttacttgaaa cttttagtgt ggacttgtag tagccagatt agccaaaagt gggaatcagg ctgcctctcc tgggtcactt 19740 tacagtggcg gcagggccgg cccagttaag gttttgtctt gggatccagg ctggaccttt 19800 cacaaccctc tcctccatct gatagtgttc ccttcctggc ctctctcagt gaagactgct 19860 19920 cacttgctgt gctggactca agcctttctg agttgtaagt gtgaagtgga atcctttggg 19980 aatcagggaa ggggagcagt gggtgggcga gtcattttcc tcttcagaaa actgtgttgt 20040 gcttttggag aacagattct ccatctgtat ccgaagggac ttggtaatgg aagcaggctg gctgttgacc ctgtccattc ctggggcaca ttcacaaccc caaggacaag ccgtgtcctt 20100 ggtagagggg ggtggtaggt gaaattttta agtctagccc tccagcgctc tcccacaagg 20160 gggcggcagt ctaccctctc acataaagaa ctgcgtatga aatgcagcct gctacagggt 20220 aaaaggcagc acctggaaga cctgaattgt acttccctcc ttgccgtgat ttgctgcctg 20280 ttactgcccc tcatcactgt cttgttctat ccagcatttc ttcatctatg aaaatagaag 20400 actggattgg atgactgatg acatccactg tggatagcta cactgctatc ctggcgatga ggccatacag ttggtgaaat gtgtgtaaca cacccaaaaa atgtgcccca gatgtgttgg 20460 20520 gttctctttt tttctccagg tctgcttttc ttgtctctac tctgccccga cttttttct 20580 ttcttctagg tttagaagcc aagcccacag agactttgtg agagatgcga cttggtcccc gctcaatcac tccctgctta ccacagtggg ctgggaccat caggtcgtcc accacgttgt 20640

```
gcccacagaa cctctcccag cccctggacc tgcaagtgtt actgagtaga ttggatttaa
gacaaaaagc aagtccccca tgagtgtcca cttctttgcc ctgccctctc agcttgtgag
                                                                   20760
acaacacagg agccttctat agtatgttga tatgctagat ctgtgccgtt aataggcatc
                                                                   20820
                                                                   20880
gtctctcagc ctgagggagg ctggattctg ggttcctgta gtcacaggga ggaaaagctt
                                                                   20940
tcttaaaaat ggacatgtat gtgcgtgtga gtgtgtgtgt agatttatag tttttggtag
tggcaggaat aaaaaaaatc catcctacat cttccctaag cactgcctct ctctcacccc
                                                                   21000
ccaaaacaag ttgacgaaag ggttttatgt agctgtctat gaggaattgg ccgtgtctgg
                                                                   21060
gtgggttatg ggatgtgggc atccctgggt tcttggaagc agctcttatg ctactcatag
                                                                   21120
agatgggatt gactttattt ttttatagtg cttaattcac cattatgaga aatgcttcca
gtcacaaaaa tgcagcccag ctcactctga ggaagaagca ggacttggta cggttttaca
caactcctta ccattaaact gaatcagaaa tccattttct ggctgaataa aaagtttggc
ttgcctgtgt aatgcccact cccttccccc tggctcccta gtgatgggac atatatgaga
qaqaaqtqtt tttctatcat agacaccaca ggggaaagtt tggggatgaa ggagagctta
aaggtgtttc aattaagtta gaaaactgac acaggctgtt gagaattctt tgccactttt
cccaccccaa aacagcatgg ggcctgacat cttctgccct ggtccccttt ctcttgatgt
ggaaagtctg aatgcagtat ttatagactt ctaaggtttt aaaatccagt atcaagaaga
                                                                   21660
aaatcagaaa tactggttgg tgaaataaag agtttaggca ttgttggcct gtcttttttg
                                                                   21720
aagcatgtgt gttatgtgta gttagatata tttcacttat gtgagtcatc atggtgttgg
                                                                   21780
tcttgtagcc cattattttt cctgtgcttc cccagcttcc caaagtagct agttagaact
                                                                   21840
taaqqtaaat atttattctt gggttggtgg agtggatatt gccagttagg agtcatggat
                                                                   21900
caattactga ttatattgaa agtaaatata atcaattatg tacttttgag ctttgcaggt
tcaatttagg taaaaatcac attatgaaac tgggaaagtc tgaaggaata tgggcaaaat
                                                                   21960
                                                                   22020
atttctcagt aaagcttcca tgcttcaccc ttgacatgat tacccttgag taaaacatgg
gaatttgtag ttgtgtgatc ctctggcgtt gatgtggagt aggaataaag tcttgcatca
tttttataat gtgggaggaa atagaatggg taggtacaat cacttaagtt ctgcctctcg
                                                                   22140
aagataaaac tttaattttg tggacactta gagaaagtaa ggggtggggg agcttgaggt
gagtaggaat ttgcatagcc cttttcttcc tggacttaag aatgatggag aaaaaactca
gtgaaagaga taaggaagca aatgtgtgga aatgtgtgat aaggaaggaa atgtgtcaag
                                                                   22320
gtggttacaa tatggaaggg aagcataggt ttttttttt ttttttgttgag atggagtttc
                                                                   22380
actcttgctg cccaggctag tgtgcagtgg catgatcttg gctcactgca accttcgcct
                                                                   22440
cctgggttca agcaattctc ctgtctcagc ctcttgagta gctgggatta caggctaatt
                                                                   22500
tttgtgtgtt tagtagagac agggtttcac cctgttagcc aggctggtct cgaactcctg
                                                                   22560
acctcaggtg atctgcccgc cttggcctcc cagagtgctg agattacagg catgagccac
                                                                   22620
cgtgcccgac cagaaagcat ggtttttgaa ggaccatatt ttattgtaaa aaaatgtttt
                                                                   22680
ggttcagata gatgtgtgct gatgggagta attcacatct atcagtgacc accaccaaga
                                                                   22740
tatttataaa ccttatcaaa tacagtagga agagcaacca gcacaatttt ggataaatgt
atatgttgca gtgaacaaag aagatagttt aaaataaaag atgaccacag aataattaga
                                                                   22860
                                                                   22920
aatggtactg tcacatatgg agtgatttgc tacgtccttc acttgaggat agttctagta
gagtgagtgc agagctgatg acaagttgaa atgagatcaa tctatttgtt taaaaatata
caaatatttt gcatttaatt tcatcggtta aaatgtctaa acattagagt aaacccattt
ccctatctac atccttactc tgaagtccac taatcaaacc tactcttcca cagctgttct
ctggtccacc aagggctatg aggctcaccc cttggatggt gctcagaacc acaaggaata
ctgaagaagc cttgcctatg atttcaggtg gcatcagaca ttgggctaat tttcaaggtg
tctctccttc ccaacaggac agtcggagtc tggttcttta ataaatagct atatggatct
tacttactgg ttcacaatca tattacagca gcaaaaacac ccaagctcta actgctctgg
gcctccagcc atgtttcctc cagatagcat gttagaaagg acaggagatt ttaaaaatca
gattggactt cagagggctc caaattttct tgccacatct agacctgaaa gtaaagagct
ctgattatta agaggcagat tctcgttgca tttggacagc gtgagtaatg gtcacactga
acacattaga atcagttgtg aaattgattt tgtttcaaaa aaggataagc aagctgtagt
ctcaattttg agttaattga aatttctcaa gaacttcatc agcagctcac atgatacagt
tttggaagag taaacaaggt aagcagacaa ccctgggacc ccaaacacat tttcttttt
                                                                    23700
agttctccat caaaaatagg catttctgga gttttggtct cactgagtga tcacaggact
                                                                    23760
gctgcaatcc agggaactga gggagctgtg agcatctgag aagaaaggtt agctcttgtt
                                                                    23820
ttaagttgta gagacaactt aaaacaagtt gtgacacaat tagtgatccc ataatctttt
                                                                    23880
                                                                    23936
atcatctggt acaacattta atatagtagc attctactta ctgtggaaac tccttg
```

<210> 12990

<211> 771

<212> DNA

<213> Homo sapiens

```
<400> 12990
taggtgtttt ataatttttt gtttaatcaa tttgaaataa ctgctgatcc aatcaaatta
                                                                       60
tctttaagta acaaagatat caatctgatt tcaatattag attagtacat tagctaccaa
                                                                      120
tattgactca aatgattatt acataaaatc ttaggaagtc aatgaaaata gcaattaccc
                                                                      180
                                                                      240
atgataaata ttttcaaata tttcctattg cgtaatttgt ccatttgaat acaaataaat
ccttgtacaa gtatgggaga atcaaatgca gataaaccta tgaagggaag aattttctaa
                                                                      300
tttatctaca ggatttttct tcaatttaaa aaaagattgt aaaatacaca taaaatttac
                                                                      360
catttttaag tgtaccattt aagaacagta ttaaatacat ccttaatgtg ccaccatcac
                                                                      420
cactatccag ctccataact catcctgtaa aactgcataa cgtcctcaag gttcattcat
                                                                      480
gctgtagcca gtgtcagaat tttcttcctt gaagtggaat aatattccat tgcatggata
                                                                      540
tactacattt tgcttatcca ttcatctact gatggccgat tgggctgctt ctatgtttta
                                                                      600
                                                                      660
gctattgtga acaatggctg ctatcaccat ggaacacaag tatctcttca agaccctgct
                                                                      720
tttaattttt ttgagtatat atgtcgactg ggattgctgg atcatggtat ttccatttta
                                                                      771
attttatgag gaatcaccac acttttccat aatggctgta ccatttcata t
<210> 12991
<211> 932
<212> DNA
<213> Homo sapiens
<400> 12991
tgagtagaac tgatgtatga gaccetttaa gaccattatc caactgcagt ttgcttggca
                                                                       60
gagttagcat taatgcaccc tttgatctag gcacctggag gcaggtaaga caggctctgc
                                                                      120
gtgcaccacc gtccctggac ctgttgtggc ggactccttg aagcaagatc aacttgggct
                                                                      180
ttgtttgagt ttttaaagtc ttttttttt aatgtaaaat ttgtcatttt aactttttaa
                                                                      240
gtatacagtt cagtggcatt aagtttattt gcatttttgt gcagctttca ccacttccat
                                                                      300
ctccaaaact ttttcatcat cccaaactga aactgtactt attaaacagt aactcccctt
                                                                      360
cctcaagacc ctggcaatca ccattcatct tcatttctat aaatttgact attctagaca
                                                                      420
                                                                      480
tacgtgtaag tgggagcata caatatttgg tttttttaga ggggggttct ggcttaattt
tataaggtgt taacttgttc ctcaaaatgt gttctataaa ctggcagcat ttgcatatct
                                                                      540
                                                                      600
tggaacttgc ttgaaataca gaatgtccag atctactgag tcagaattta cattttcaaa
                                                                      660
agcttcctac gtgactcatg catattaaag tttgggaagc actgacttag attacctttt
gagaattcca gatgggtcag aaaccagaca gaaatactca gtagtgagaa gctatggtgt
                                                                      720
atcagaagct gttaggcatt tcatggtttg gtagtgagca agacagatag ttttcctgta
                                                                      780
ttcagcgact tagtctagag agagacagga tggaattaag tgtttaggtg ctagccaaaa
                                                                      840
gtaaagattc gtagaaaaca agggttcata tcccagtcat caaagtgata aattttccct
                                                                      900
                                                                      932
gcttaacatt tagattaaaa agtaataatt ag
<210> 12992
<211> 4282
<212> DNA
<213> Homo sapiens
<400> 12992
                                                                       60
ctgatggtta attttagaca tctacttgac tggattgaga gacacacata gctggtgaaa
                                                                      120
cacaatttct gggcatatct gtgaaggtgt ttctggaaga cactgagata accctgaccc
                                                                      180
agtgtggatg ggcactgata tggtttgcct gtgtccccac ccagatctca tcttgaattg
                                                                      240
tagttcctat aatccgtaca tgtcgtggga gggacccagt gggaggtgat tgaatcatgg
tggttgttac tgccattctg ttttcatggc agtgagtgag ttctcatgat ccaatggttt
                                                                      300
                                                                      360
cataaggggc tgttcccctt tggctcagca cttcttcttg ttgctgccat gtgaagaagg
                                                                      420
acgtctttgt ttccccttct gccatgattg tgaggcctct gcagccacgt ggaactgtca
                                                                      480
gcccatttaa cctctttgtt ctttataaat tgctcagact caggtatttc ttcacagctg
                                                                      540
tataaaaatg gatgaataca ggcaccatcc aattggttga gagcccagat agaataacaa
                                                                      600
ggaagaggaa aggtgaatta tctcctgaaa ttgaaacatc cttcttctcc tgcccttgac
                                                                      660
atcagaatca gtgtctcaga gctttggcct cagaatcaga gttacaccat tggcttccct
                                                                      720
gattctgagt cctttatatc tggagtgagt catgctgcca gctttcctgg ttctccaact
                                                                      780
tggagacagg ctattgtgta acttctcagc ctccataatt atgtgaacca attcccctaa
                                                                      840
```

tgagtcttct ctcatctatc tacatatatc ctattgattc tgcctttctg gagaaccctg

	ttacaataat					900
tttgccccat	tttgtatttg	tattataact	gtgtatctgg	aaaatggaac	aagtttttat	960
cttcttcata	tgagggccaa	agctttttc	tcaccaatat	ttttggagat	ttttaagatt	1020
ttcttttgtt	tggacataca	atcttatgga	ggctgagaaa	taaaattttt	tctattttat	1080
	cagatgtttg					1140
	tggagtggga					1200
	gaaaagtcta					1260
	tctaaataat					1320
	ggtggaacac					1380
antteteato	aaaggagcaa	gttgaagatc	acagagacac	cttgaaacaa	aaagccagga	1440
ataacttcca	acccaagagg	agaacagaga	ggcctcaaaa	ccaaagctag	gataagaaac	1500
	agagttatct					1560
actactcact	caaaatgtta	ctgaaactga	aggetttta	atgacttagc	catacataca	1620
agaaacattc	cctaaggtgg	cacagaagac	adadccccca	tatccaaaga	tagccaagga	1680
	ccctgttgc					1740
	atgagatcct					1800
	cataaatggg					1860
	atgaacaaaa					1920
	cttttaatgc					1980
	tcatttttat					2040
	ggagtgcaat					2100
geeeaggee	tcctgcctca	ggcgcgacct	taggttgggat	tacadatacc	caccaccaca	2160
gatagataat	tttttgcagt	tttagtagag	acaccette	atcatattaa	ccacactagt	2220
	tgagctcagg					2280
						2340
ggcargagcc	acccaaccag gacaggctgg	rangagattt	attacagaaa	aagggccgca	geeegeaggg	2400
						2460
	taaagaaaat					2520
	aggaggagtc					2580
	cttcttcatg					2640
gggtgcagtt	ttcagccctc	tgacattaaa	aggtgaagca	gaggacatga	tatgaggaa	2700
	ctgtacgctg					2760
gaaaggagag	gttgatatcg	gragragagg	ctttgaaagg	ttaaggatgt	gttaaattet	2820
tagggaagaa	agcctcatca	tggttagcaa	aggagtgggt	claacyacyc	tatagtcaac	2880
cccatcatcc	catcctagca	aagetgagaa	cicagitti	adagitacio	ttattata	2940
tcagccaaga	gtggttctgt	teagteagtt	gggagettat	atttaattt	angtagttag	3000
	gaaagagtac					3060
atggggttaa	tggcagctgt	atttttctgg	gagetetget	ttaattggac	adagtaagtt	3120
gtggtaagat	ttcttcttt	atetteagla	tercaaatgt	atattataa	acaacccca	3180
	tgatgtctga					3240
tccgtttttt	tcctttggtc	attatgaata	gggcttatgt	aaataattyc	ttttaatta	3300
	gtaacatcaa					3360
taaggtgaga	cttgtttagc	tttggaaaaa	aatgeceaac	ctgtaatagg	ggaggaaaaa	3420
taattttctg	tttttggaat	terragargg	gatgetetgt	aaaaactgac	agattaaaat	3480
	gaaaagttga					3540
	taaatctcca					3600
ttaaagaaag	aagatttgag	gtgcagtatt	ggggagttaa	ccagcaaaag	cacattagac	3660
aagggtaagg	ttcattatac	agacttaagt	ccatgcattc	tccattgata	agactettta	
gtgatttagt	tatccttctc	ttcttggtgt	cgagagaggt	agcttttaaa	tggtgatttc	3720
ctttatagat	gtaaattttc	cttacacaag	tgtaacttct	ctgttttcac	aacttccttt	3780
gttagcattt	tttttttca	aaataattag	cttggaataa	ttcttaagcc	aaagggacat	3840
	tgcatattct					3900
	tgttccaccg					3960
atttgttaaa	gagtttagca	gttctaagag	atatagacca	gctgtgctat	ctttttgtgg	4020
ttttcagttc	tctagtatgt	tgagcatctt	tttgtaagtg	tacttgccat	ctgtagatct	4080
tctttggtga	ggcgtctgtt	cagatctgtg	tgcattttta	attgggctgt	ttaacttatt	4140
gtttagtttt	aacaattttt	tatgtatttt	gaatacaaat	tctcagatct	gtattttgca	4200
	tcaatatgtg		tggttctctt	aacaaggtct	cttccagagt	4260
ataaactgta	aatattaaga	aa				4282

<211> 10821 <212> DNA

```
<213> Homo sapiens
<400> 12993
                                                                     60
gctgtgctct tggctcacca caacctctgc ctcctgggtt caagcaattc tcctccctca
                                                                     120
gcctcccgag tagctgggat tacaggtatg tgccactatg cccagctact tttgtatttt
tagttgaaat ggggtttgtt tacgttggtc atgttggtat tgaattcccg acctcatgtg
                                                                     180
atctgcctgc ctcagcctcc caaagtgctg gggttagagg catgagccac cataccggcc
                                                                     240
tttttttatt ttttgaggta gagtcttgca ctgttaccca ggctggagtg
                                                                     300
                                                                     360
cagtggttcg atcttagctt actgcaacct ccataatctg ggctcaagta gtcctcccac
                                                                     420
ctcagcctcc ctagtagctg ggactgaagc tgtgtgccac catgcctggc taatttttat
                                                                     480
attattagga gagatggggt ttttctatgt catcctggct ggtcttgaac tcctggactc
                                                                     540
aagtgatcct cctgcctcag cctcccaaag tggtgggatt acagatgtga ggcagcatgc
                                                                     600
ccacctttct tgatttttat tttttgagac agggtcttgc gctgtctacc aggttggagt
gcagtggtgc gatctcagct tactgcagcc tccacgttct aggctaaaac agttgtcctc
                                                                     660
                                                                     720
ccttagcctc cctagtagct gggagtacag gtgtgtggca ccatgcctgg ctaatttttg
                                                                     780
tattttttag tggagacgtg gttttgctat gtccttctgg ctgctcttga actcctgacc
                                                                     840
tcaagtgatc cacctgcctc agcctcccaa agtgctggga ttaaaggcat gagacaccgt
                                                                     900
gcctggccta tttttaactt tttgacgaaa taccaaactg ttacaaatag gctgcaccgt
                                                                     960
ttatattcca catacagtat ttaatggttg tgatttctct ctgaccttgc caacacttgc
                                                                    1020
tgttttgtat tttttggatt atagcttttc tagtgtgagt gaaggagtat gtggttgtgg
ttgcagtttc gatggccata gtgataatga tattgatcat cttttcatgt gcttgttttc
                                                                    1080
catttacatg tctttttggc aaagcgagcg ttcaactctt tctccatttg taatttggtt
                                                                    1140
gtctttgttg agttatacaa gttccttata tattgtggtt aacagactgt tgttagatat
                                                                    1200
ataacgtgta aatattttct tcctttctgt gggttgcctt ttgatttttt ttttttagac
                                                                    1260
tgagtcttgc tctgttgccc aggctggatt tcagtggtgt gacatcggct taccgcaatg
                                                                    1320
tctgcctcct gggttcaagt gattctcctc ctagcctccc gagtagctgg gattacaggc
                                                                    1380
atgggtcacc acacccagca actttttgt atttttatta gagactggat gtctccatgt
                                                                    1440
tgatcagact gtcttggact gctattcaca ggtgatatgc ccgcctgtgc ctcccaaaat
                                                                    1500
                                                                    1560
gcttggatta cagggggagc caccacgact ggccagtttt ttttttgttt ttttttgag
                                                                    1620
gcagggtctt gcactgttgc cgaggctgga gtgcagtggt gccatctctg cttactgcac
                                                                    1680
ccttcacatt ctgtgctgaa gcagtcctcc ttcctcattc tccctagtag ctgtgactac
aggtgtgtgt caccatgcac gactaatttt tgtatgttta gtagagacgg ggttttgcta
                                                                    1740
tgtccttctg gctggtgttg aactcctgga ctcaattgat ccacgtgcct tggcctccca
                                                                    1800
aagtgctggg attacagacg tgagccacca tgcctactct ttttttttt tttttaaag
                                                                    1860
                                                                    1920
acatggtctt gtgctgttcc tcaggctgga gtgcagtggt gccatcttgg cttactgcaa
cctcgatatt cggggctcaa gcggtcctcc cacctcagcc tcactagtag ctgggactag
                                                                    1980
aggtgtgtgg cagcatgcct ggctgatttt tgtattttta gtagagacgg ggttttgcta
                                                                    2040
tgtctctctg gatggtcttg aactcctgca ctcaagtgat ctgcctgctt cagccttcca
                                                                    2100
aaqtgctggg attataggca tgagtcacct tgcctgtcgt gtttttaact ttttgtggaa
                                                                    2160
ataccaaact atgttacaaa taggctgtac cattttatat tccacataca gtatttaatg
                                                                    2220
gttgtgattt ctctctgacc ttgacaacac ttgttactta atatttgtgg attatagcct
                                                                    2280
                                                                    2340
ttctagtgtg tgtgaaggag tatgtggttg tggtttcagt tttgatggcc ataatgataa
                                                                    2400
tgatattgat cgtcttttca tttcctcgtt ttctatttgc atgtcttttt ggcaaggtgt
gagttcaact cttccgccat ttgtaatttg gttgcttttg ttgttgagtt atacatattc
                                                                    2460
tgtatgtatt gtagttaatg gacagttgtt agatatataa tgtgctagca aatattttct
                                                                    2520
2580
cccaagcggg agtgcagtgg caggatctca gctcattgtc acctccgctt cctgggttca
                                                                    2640
agcgactete etgeeteage etectgagta getgggatta eagacgtgea ecattacage
                                                                    2700
aggctaattt tgtatttttg tttgagatgg ggtttgttta tcttggtcag gatggtcttg
                                                                    2760
aactcccgtc ctcagttgat cctcctgcct cggcctccag aagagctggg atttcaggca
                                                                    2820
                                                                    2880
tgagccaccg tgcctggccc taatgtttgt atttttagta gagacaaggt ttagccatgt
                                                                    2940
tggccaggct ggtctccaac tcctgacctc aagtgatcca tctgcctcag ccttcgaaat
                                                                    3000
tgctgggatg ataggcatga gccatcatac catgtctttt ttttttttt tttttgagac
                                                                    3060
agggtcttgc actgttgccc aggttggagt gtagtggcac gatctcagct taatgtaacc
                                                                    3120
tgcacgttct gggctcaagc agtcctcctg cttcagtctc cctagtagct gctacttcag
ctgtgtgtca ccattcacag ctggtttttg tattattagt agagatggtg ttttgctatg
                                                                    3180
                                                                    3240
tcatcctggc tggtcttgaa ctcctggact caggtgatcc acctgcctta gcctcccaaa
                                                                    3300
gggctgggat tgctggcgtg aaccacagtg cgcagggttt agggtttaca gtttagggtt
tagggtttag ggttagggtt aggggttagg ggttaggggt taggggttag ggttaggggt
                                                                    3360
```

tagggttagg ggttagggtt aagggttagg ggttaggggt aggggtaggg gtagggttag 3420 gggttagggt agtgtaaata atttcacatt attactaata acaaattatt acttatatta 3480 3540 cactattact taatgtaaag gctattaaga catgtttgtc ttcaaagaat ggcgttggtt tctgtgggca gtttctcctc atggaaaggt agtgcgttcc tgctaaatca tggacaaaat 3600 3660 gggcctccag gagctacagg ctgcagaagc agcttctcgt ctatgtcctt cactgcctga 3720 tactgttgtt gaccttgaaa ccttgttttg ggctagtttt attaacagag ctagtatttc catgaggttc tactacatac caggttccag aaagctaaat gccttttgtt tgttattatt 3780 3840 3900 gattgagtga ctttcccagg gtcgcacagc tactaagagc agagtcatgt ttagattcat gtgggaatac tgaacacaga aatgaaccaa cggaaacatc ctacattcca aaagcctact 3960 4020 caagccattt gttcttattt taaggaaaat ctatcatgaa tgccaacata catccctaac 4080 aacccagtgc tgttaccctc caaacatttt atgtcttgca aagtattaga acttcatatg tgaagccata ccactcagag ggaatgcaaa atacataatg acatctcctt taggatgtcc 4140 ttagagaatt caaggaaaag aagttaaata atttaaaagt gctttcgggt acagctattt 4200 agcactagac agtaagatta gacatagatt gtaaagataa taatagggtt agggatagga 4260 ttaggatctg ggtcagagtc agggccagaa gtatgcttag aggtggggtc atggtcaggg 4320 tcaagatcaa agtcagggtc aaagttaggg tcagaattag ggaccagggt agggatcagg 4380 atttagattc agggtcaaag tcttgggaca gggttagggt taggattaga accagagctt 4440 ttttctcctc aggacccacc cgaggacggg tcaccatggc tttggagcac ctggtagtgt 4500 4560 ggcatgtcca cagtgaagac cagagtttcg ttgtccttaa gactgacctg gggagacgtg gctgcaggcc attgaggaag gtgaggaaaa acttcctgtc tgctccccgt gtgctgagga 4620 gggagctctg ccatgggctt tactttcaca tgttacattc cacaagtctt gttttacaaa 4680 4740 agcatccctt ccttgaggct tcggctgctc atcactgctc atcatcataa cgtgccataa 4800 catacagtaa gatttgggtt tgtttctggg gagagatctt ggtatagaga aaggagaaat 4860 gcttagagcc accatcagga cagttgggat gaaagctggg gttgggcaga ggctggagga 4920 aacatqtqca cccctqtaa acacttttat tcttqtttta attactcatt tttcttacaq 4980 tqttaaatta qtaaaaatag tattgaaaaa ttgaaaagta ggcgtattaa aacttgcaac 5040 accacttaag cttagatgta ttatttgtac ctcaacattt tttattttgt tgagaaagtt 5100 taaggttaat tggcagcata tttctaatag tagatagaat aatgtctgtt ttataaacat 5160 tgacatecta cattacatgt gtcaacectg aaaatetgag aeggetetea gattttttag 5220 aaagtttatt ttgccaagct tgaggatgtg cgcccatgat gcatccttag gaggtcctga caacatgggc ccaaggtggt cggggcacag cttggtctta cacactttag ggagacatga 5280 gacatcaatc agtatgtgta agatgtacat tggttcagtc cagaaaggtg agaaggccag 5340 acagggggct tccaggtcat aggtaggtaa gagacaaacg atttcattct tttgcattgc 5400 tgattaccct ctccacgtga ggcaatcagg tatgcattta tctcggtgag caggtgggtg 5460 5520 tctttggata gaatgggagg cagatttgcc ctaagcagtt cccagattga cttttccctt tagcttagtg attttgggtc cccaagattt attttccctt cataaggttt tcctatgagt 5580 5640 attaattatt cattgtgtat tttattacac aaataaggca cagattttta aaaaatcatc 5700 aacttcgtgg ctacctatat agacataatt gcatagaagt tcaactaaat ttgcaaacat 5760 cccagaattt gggtttccaa taattcttag tgattcttta aaaggtaaag tattttttc 5820 ccataaaaca tagcaacatg taaaatcacc cgtagaatgt cccgccattt ttgttttct 5880 agtttcctca ttttctgcaa agcctcactg aggagattga ctttgaatat ccttttacac 5940 tcttctgttt tagatagcat tgtggtaaaa cattgaatca tcatggtcat aagttctgtc cacattettt etttettga atattttte ecagtgagea atatttgatt etgetgtatt 6000 atggctaaaa ggtaggcatg gcaacaaaat aaagacagga agtcttcgga ataagtgatc 6060 6120 ccatcacaat gaatcaattt gccattggaa catattttta caaagtcact cttgtgaaaa tatttggcta tgaattgaaa cagagtctgt aaggttaata tttttcctgg tctaaggtga 6180 6240 acagcatttt agagaatgaa cccaggacac aaccacagca caagaaaaaa atatgagaat taagtttaca catgtgtgtt actacagtaa cagaaaacat gtaaagaaca tttgttttga 6300 tttatatgtc agtctgcact gtttaatttt ttgtgtcata aatgctctta tttaaaaaaa 6360 taggactagt taacagtgtc aattactagt aattcatggt ataaataatt aaacaaggaa 6420 gtgttcaaaa aacagtgttt taaataaagt tttattttac atctttttac ttacacagaa 6480 attgtcaaaa aaaaaaaaa aaagatttcc catgtagccg caacctagtt tcctctctta 6540 6600 ttaacatctt ctattagtgt gtctcacatg gcttattaat atcttacaca atttgtcaca gttaatgaac caatactgat agactaaagt tcatatttca tttggattcc cttagatgtg 6660 tcttactctg atccaggatc ccatccagga tcccgcatga catgtagtca tcatgtgggc 6720 tcttcctggc tgtgacagtg tgtcaggctt tccatctcag gtgaccttga tagtactgag 6780 gaggattggt caggcatttt gtagaatgtc cctcattgtc acttcatgtt ctcaaggtga 6840 actgttacct ttgatattca cttggatcat tttgcagagc tactgtttgt caggttaggg 6900 ttggaattet tttgcaaagg agatttetat gcaactecat ttgettatte acetatgeat 6960 acaaatacag acacctagat aattacttta agctttagct attattcaac cctgcagcat 7020

tatgttgcac aattcattcc tgtgttggca atcggtagct tttttttatt ggctcttatt 7080 tttctttgat atattttaat ttttttagta cttacttact ttctgatact tccagattat 7140 7200 cctggctcct atatttactc tcccagttct agtatcagac atttcttcaa ggagcctgat tcctttcaga atggtaggaa aacttacgtc tggctgctga aagagcacat tgtatcttgt 7260 7320 ccctcattag taatgctagg aagtatatgt gtgtgtctaa cctacctata cacacctaat 7380 tataaagttt tctatgtaga actgtgtgta tctatattaa actaaacata agtttacgtt 7440 tatgtctcca cctctgatct actatcacat gaattattct agccttgtcg ccttgctaat 7500 ttgtaacctc ccacttcaac agtgagaaac ctggttccca ccatctgcga cttaatgtaa 7560 gtcattgttt tattccagat acagacactg tggttttaca gttgttcgca gttgcttctg ttggaaagaa ctttgtaaaa tggaatccaa ggatgaagta tagttgattt gccttcagct 7620 7680 tacagattct attcattttc aaagtgactt aggtcaacac cattttccct acaccttcag tgagttttta cttacatttg tgtcttagtc cattttgtgc ttctgtaaca gaatacctga 7740 ggctgggtaa tgtataagta aaaaaggttc atttggctca aaatactggt ggctgcaatg 7800 tctgagattg ggcagttgca tctggtgggg cctcagtctt tttcacctca tgatggaaag 7860 tggaagggga gcaaggtgtg caccagagat cacatagcaa aagtgaaagc aagagggaag 7920 7980 ccaaggaacc cagactcttt ttaactagct actcctgtag gaattaatcc attcctgtga cagcagaact cactcacccc catggaggac attaatgtat tcatgagaga tccgtcccca 8040 tgacccaaac accttccact aggccacacc gccccacact gacacagtgg gggtcaaatt 8100 8160 tctcaaaaag aaataaaaat ttttttgaga ctgggtccgg ctctgtcgcc caggctggag tgcaaatgtg cagtctcagc tcactgcaac ctctaccccc tgggtgcaag cgatcctccc 8220 tetteageet eetgattage tgtgaetaca ggeacatgee ateatgeeca tetaattttt 8280 gtatttttgg tagagatggg gtttcaccat gttgcccagg ctggtcttga actcctggcc 8340 8400 tcccaaagtg ctgcaattat aggcatgtgc caccatgcct ggctaaatta tagttttcca 8460 ttgaaacata aaatttetet etgtagtaae eateattttt gateataate aaagtaagae tattattgtt ttaaaaataa gtctagtttt gttagatttt gcttgattat ttacataagt 8520 8580 gcagcaagaa caggagatga ccacataggt gctttcaagt ttctttgctg gaagttttca 8640 tacaqaatct cagatttgac ttttaaaggc cttattcagg ctaaaaccca agccaagcac 8700 atactatcaa atttcagccg cagtccttat ggctttgtgt gaattcctct cttcttgagg 8760 cccccaaaat atccccaaat tcctgggcct accgggaaat gaccttcttt actaacctga 8820 aggctgtgaa ccctgtaatc taggtatcag gctggctttt ctcagagtgc tgttgggaat 8880 gaagattttg gtgttccaaa aaaaaaaaaa aaaaaaaaac aacgtgggaa caaatgatgt cttagcgagg cgagctttac tttctgcata aagggtgcta ctcaatagct gtccagccac 8940 aagagcacac caaacaaagg agacagagtt acttataacc tgatgtgtct accctagtgc 9000 9060 tgtgtccagt ttccactggc tgaaatagga cctcacattt tacactttac ccgattgact 9120 attagtttaa cactttctta attaggtaag gggaatagaa caaagaaaga aaaggaagtt 9180 gcccagggat agttaaggaa gcatctccaa ataaggaatg gcatgtatta tgggctgggg 9240 cttgtctagt tctgcccagg catgctggag caagctagga caactgattt ggaatacaca 9300 cacacacaca cacacacaca cacacacaca cacacacaca cgtatatata aaaatagtgg atagcaatct caaagtaaga aattagctag gatggtctgg atctcctgac cttgtgatcc 9360 9420 atcctcctca gcctcccaaa gtgctgggat tacaggcatg agccactgca cccggcacaa 9480 tatttaaaat aataattgga attatgactc attactctat actggcacat agcatggata 9540 aggaggacat aacaaattta caggaatttt atatcatttc tgaaaacata acattttacc 9600 catacaaatg taacacaggg aaggttaggt atctcttttt atttgtatct tatgtatggt tttccttata aaaaatacat cctactttac ttgtgaaaca tgccctactt ttcttgcatg 9660 9720 ctttgcatgg ggttgtttct agttattcca ttatttctaa tctttttatt tacatatact gattataatt ttaatactta gtaatctttt attttccaga gaaaactagg aagtagtcag 9780 9840 ttataaagtg tcatatatta gcattctata gtaggttaga aaaagtatga atatactgtc tcccaacatc tagagggatg tatttcctca taatacaatt tctcagtgtg gcagaaaaaa 9900 9960 acatgtttat taacgggcca aaatatcttt agtctttctg taaaaacagg aagccaaaag tatataaact tgaattattt atgttcagta attaatgttt tagtattgta tcttatttat 10020 aaatggtcta gatatttaat gcaaatcttt tacttagctt aagtttaagg ttaaaaatta 10080 gcaaaagtac tttggaaact actattaggc agatttactg tgaacaaatt atttttgaaa 10140 taatgttttt cgcttttcac aagacggcac cgaaagcgaa ggaagctcct gctcctccta 10200 aagccgaagc caaagtgaag gctttaaagg ccaagaaggc agtgttgaaa ggtgtccgca 10260 gccacacgca aaaaagaaga tccgcatgtc actcaccttc aggcggccca agacactgcg 10320 actccggagg cagcccagat atcctcggaa gagcaccccc aggagaaaca agcttggcca 10380 ctatgctatc aagtttccgc tgaccactga gtgggccgga agaagataga agaaaacaac 10440 atgettgtgt tettegtgga tgttaaagee aacaageace agateaaaca ggetgtgaag 10500 aagctctatg acagtgatgt ggccaaggtc accaccctga tttttcctga taaagagaac 10560 aaggcatatg ttcgactggc tcctgattat gaagctttgg atgttgcaac aaaattggga 10620 tcgtctaaac tgagtccagc tggctgactc taaatacatg tgtatctttt caccataaaa 10680

```
10740
gaataatgtt tttcataaga gtgacaactt aattagaatc aaatctataa gctttaagat
tttacatttc tgtaagtata atattagctt atttgactag aactcaagca gaataggaat
                                                                    10800
                                                                    10821
ttatgtttgt tttatattca a
<210> 12994
<211> 624
<212> DNA
<213> Homo sapiens
<400> 12994
                                                                       60
gaacttctga gctccagtga tcctcccaac tcagcctcct gagtcgctag gaccacaggc
tatcatttgc tttctgtcag gaaatacaca gggcagatca catcactttt cattggaatg
                                                                      120
                                                                      180
ctcatctgca ggcacttgat gttgtgtatc agtgttttct gtctgctgat gactctcctg
ttccccttcg ttcttgtagt tttgtatatt ttactcacct tcagatcatc ttggcagtat
                                                                      240
tgctttctcc acttcatttg ggatctttcc ttatttctaa ttgatcatgt ttgccactgt
                                                                      300
                                                                      360
tgacagtggc agatccgcat gcgttattta tttcaagaac cctatcccac ttctctgcat
                                                                      420
gcctgcatat attagcctca taaatcacca agaaaataaa gatcttaatg tactctttca
                                                                      480
actagctgtt gttcagcaag acaccctaag gagagtgaaa actaaagaac aaactggggt
                                                                      540
aagatatttg ttaaaataat atataacttc atataattgt aaaaagatta atatctagac
                                                                      600
tatatatttt ttaaaaaccc tgtgactcaa gttataaaaa gacaacccgg tagaaaagtg
                                                                      624
aataaaggac ttaagcattt cata
<210> 12995
<211> 624
<212> DNA
<213> Homo sapiens
<400> 12995
gaacttctga gctccagtga tcctcccaac tcagcctcct gagtcgctag gaccacaggc
                                                                       60
                                                                      120
tatcatttgc tttctgtcag gaaatacaca gggcagatca catcactttt cattggaatg
ctcatctgca ggcacttgat gttgtgtatc agtgttttct gtctgctgat gactctcctg
                                                                      180
ttccccttcg ttcttgtagt tttgtatatt ttactcacct tcagatcatc ttggcagtat
                                                                      240
tgctttctcc acttcatttg ggatctttcc ttatttctaa ttgatcatgt ttgccactgt
                                                                      300
tgacagtggc agatccgcat gcgttattta tttcaagaac cctatcccac ttctctgcat
                                                                      360
                                                                      420
gcctgcatat attagcctca taaatcacca agaaaataaa gatcttaatg tactctttca
actagctgtt gttcagcaag acaccctaag gagagtgaaa actaaagaac aaactggggt
                                                                      480
aagatatttg ttaaaataat atataacttc atataattgt aaaaagatta atatctagac
                                                                      540
tatatatttt ttaaaaaccc tgtgactcaa gttataaaaa gacaacccgg tagaaaagtg
                                                                      600
                                                                      624
aataaaggac ttaagcattt cata
<210> 12996
<211> 4243
<212> DNA
<213> Homo sapiens
<400> 12996
gaagatgatg agaagcttat tgaggaaatc cagaaggagg ctgaagagga acagaaaaga
                                                                        60
aagaatggag gcaagtgccc ctccccaggc ccccaggaca gagcagcagc caggccatgc
                                                                       120
                                                                       180
aggettetge tggcetecet gagtgteetg geacteaace cageacagga gaggagggg
tgctgtccct caggtggcta tagacctgac ttcacccacg cggccacatc tcaggcttat
                                                                       240
ggaaaggcct tcaacgcctt gaatatagtt ttggcatctc cttgatggtg aggaagtccc
                                                                       300
aaggggtggg tttgagctca ggaatcaatc aagccacacc tggctaaaga aaagtagacc
                                                                       360
                                                                       420
caqctqatcc ttctgaggct gaaaagcagt gaagccaggt gtgttggcac acatctgcga
tcccagctcc tcaggaggca gaggtgggag catcactgga tcccaggagg ttgggggctag
                                                                       480
cctgggcaaa atagcaagac cccatctgtt tttctttaaa aaaaagaggc taagtgcagt
                                                                       540
ggctcacatc tgcaatccca gcactcggga gggtgaggca ggtggatcag ttgagcccag
                                                                       600
gagtttgaga ccagcccggg caacatggca aaaccccatc tattaaaaaa aaaaaaaaa
                                                                       660
gtaactgagt cactgaggtg gcccatcaag gccctggctc tgaaggatgt ctggctgggt
```

720

780 gggtggacgt gccaccttcc aaggtgccac tgtggagcaa gacactggtg gaagtacaga 840 tttgttcttg gtttcttgca gtggcatttg ggaggtgtcc acgttttgtg ctttgatcag catgtggagc cactcccgtg tccagaggtc gctgccctgg tcccaggcta gattccattg 900 aggttggttt aatgtttttc tccactaatc cccacatccc tttcagagaa caccttcaaa 960 1020 cgcattggac ccccgctgga gaagcctgtg gagaaggtgc agagggtgga ggccctcccg 1080 aggcccgttc cgcagaacct gccacagcca cagatgccac cctatgcctt cgcgcaccca 1140 cccttcccc tgcctccgt gcggcctgtg ttcaacaact tcccactcaa catggggcct atcccagccc cgtacgtgcc ccctctgccc aacgtgcggg tcaactatga cttcggtccc 1200 atccacatgc ccctggagca caacctgccc atgcactttg gcccccagcc gcggcatcgc 1260 ttctgatggc cccgaatccc cattgagcag cacaaagccc gtttggggta ggagtgtgga 1320 1380 tggagaaccc tcccccaagg ctggtgtctg taccattgca tcctaagtca gcttgaaggg 1440 taggctggtt ttcttcccac ccctttccta gaagggctac tgctcctgga agagtggacg 1500 gatccataat aaagacgtcc caaatggtgg agttcggaga gagctgcgat gtgaactgcc 1560 cctccctcg catccccag gccaccaacg gcagtccttc tgccttgtcc atggcatagg 1620 ccatagacca ggtccctgct gctcacacct gggcctctcc tcggagccga cccctgggta gcaaggcagc cgagagcatc teeetggagg ggeccaeggt tgggecaagg geagaggggg 1680 1740 ctgcacctgc gggcctggga agcattgctc agggtggggg gctgggacca tggcccgcag 1800 aggcactgcc acagctgtga gggccaagat gctgtccccc catccaaaac ccgtgcgcca 1860 ctgcagtgag tgttgagggc acctctcctc ccctcttaca cctactcaga tgaggcagca 1920 gcagacccat ctcgcggcgg gggttttgtt ctgttgccgc ctaactttct catcctcggt 1980 gttctgaagc tggcccattg aaagagcctc ttaaggcagc tgggacagag gcctggtggc 2040 cctgctgggc agcccaactg ctgggggaga cgtttctgcc accctgggtg atgagcagct 2100 tttccccct ggctttctgg gggaggagtg ggcctcctta gggagacagg tgaccctggg 2160 tgccacccct gccccgtgtg tgccccgggt gttctcagtg gttgctgaag gcaggtagag 2220 ggtgctgtcc agtatccccc atgtgaaggt cacttccctt ctcatggagt cagctgagca 2280 2340 tcagctcagc cctgccatgt ccccactcac cctcctcgcc tcctgtccgg ccctgggttt 2400 ctagcggttgc ctgaggcatc actctggccc attgacagat gagaggtctg aagccttcct ggccacaggc atcactttct cctcctcctc atgccctgcc ttgtccttgt cgtgttgcca 2460 2520 tggggttctg agaggctggg agttcacaga cctcagacac agctgagtcc gacaaccatt 2580 ggggtggggc tgcatcagtc tccggagtgg cccgccacct cctgaagcag ggcctggccc 2640 acccaaggtg cctggggcag gcgggcaccg tcattcgctg ccattggctt ctcagatgta tttcaaggac taaagtgggc tctaagatct aagatggccc ggcgcggtgg ctcccgcctg 2700 2760 taatcccagc actttgggag gccgaggcgg gcggatgagt tgaggtcggg agtttgagtc cccgtctcta ctaaaaatac aaaattagcc ggacaaggtg gcgcatgcct ataatcccag 2820 gtactcagga ggctgaggca ggagaatcac ttgaacctgg gaggcagagg ttgcagtgag 2880 2940 ccaagattgt gccactgcac tccagcctga gcaacaaaag caaaactcta tctttaaaaa aaaaaaaaa aaaactaaga tacccattct ttctgccttt gcccaggatg gaggctttga 3000 agacaggtgg tcacctggac ctggggtaag ggtgcgcagg gaggccgggc ttgggggcag 3060 cctgctgcta tgtccttgct ggcgcccata cctgttggac tgcctgaact ttgctactag 3120 cctgaacgac agtgccttgg aaaggcaggc tccatgcggc agcaacagga ttgtcttcgg 3180 3240 taccttaaat atgctccctg tgcttcccca gggaggatct ctgggagcag agggcggctg tagacatcac agctgaagag gtgacctcag gccctgggag cctcagctcc ctctgccctg 3300 taccctaggc acgtggctcc agcaagagcc ccaggcagga caaagggagc aggcagcagc 3360 3420 tgcagaaaca gccctagaca ggtgctggcc tcaaccctgg caggggaggg ggagcccaga gtgatgtttc tcctaaggcc aaaccccagg ggtgggtcat ttgagaggag ttccagctgt 3480 tctggccaca ctgggctggt ggggaaggag cggcggcctc tttccttgga gggtccctga 3540 ttcctgagga tcctccccga gccaggcacg ggggaccaca gggctgccgt gagcacccac 3600 cctggttctc caggccctc tgtccagagg cagggcctga acctcgggct cctgcctgga 3660 3720 ccagtgacag cattggggag agaagcactg ggggtcttca gaccagccag caaggggccg tgccagtgcc cagagagcag gtcagacaac aggcaaccct gaggcagctg gctccctctc 3780 tetgecetge agggettgee geagggegtg aggeteecea gecacageee cetettaett 3840 gccttaaaac tggagagagg aatctagtat ttgcacttag caaaatattt aaaaactgaa 3900 aaaaatgtgc atgatctgtc actttgtata aaaacaagaa acgattagtt cattaaactt 3960 tttctttacc ttctggtagt aaaaatagat aaaataattc cgtttcaact actgtgtgta 4020 4080 aaaagcctgt atcatatgta actgggactt ttgtaaataa atgtttgtgc gctctgctcc ctccagcttc gtctctccac cccgccatcc ggcaagttac aggggccgcc gacagattcg 4140 tccaagtgat tgggtctaaa ccagcatcct cacctccccg actgggtcct ggcaggagca 4200 4243 ggcccggaag gcccagtagt aagatcccca ccactcccct gcc

<210> 12997

<211> 3461 <212> DNA <213> Homo sapiens <400> 12997 tggtttcttg cagtggcatt tgggaggtgt ccacgttttg tgctttgatc agcatgtgga 60 120 gccactcccg tgtccagagg tcgctgccct ggtcccaggc tagattccat tgaggttggt 180 ttaatgtttt tctccactaa tccccacatc cctttcagag aacaccttca aacgcattgg accccgctg gagaagcctg tggagaaggt gcagagggtg gaggccctcc cgaggcccgt 240 tccgcagaac ctgccacagc cacagatgcc accctatgcc ttcgcgcacc cacccttccc 300 360 cctgcctccc gtgcggcctg tgttcaacaa cttcccactc aacatggggc ctatcccagc 420 cccgtacgtg cccctctgc ccaacgtgcg ggtcaactat gacttcggtc ccatccacat gccctggag cacaacctgc ccatgcactt tggcccccag ccgcggcatc gcttctgatg 480 gccccgaatc cccattgagc agcacaaagc ccgtttgggg taggagtgtg gatggagaac 540 600 cctccccaa ggctggtgtc tgtaccattg catcctaagt cagcttgaag ggtaggctgg 660 ttttcttccc acccctttcc tagaagggct actgctcctg gaagagtgga cggatccata 720 780 cgcatcccc aggccaccaa cggcagtcct tctgccttgt ccatggcata ggccatagac 840 caggtccctg ctgctcacac ctgggcctct cctcggagcc gacccctggg tagcaaggca 900 gccgagagca tctccctgga ggggcccacg gttgggccaa gggcagaggg ggctgcacct 960 gcgggcctgg gaagcattgc tcagggtggg gggctgggac catggcccgc agaggcactg 1020 ccacagetgt gagggccaag atgetgteee eccatecaaa accegtgege cactgeagtg 1080 agtgttgagg gcacctctcc tcccctctta cacctactca gatgaggcag cagcagaccc 1140 atctcgcggc gggggttttg ttctgttgcc gcctaacttt ctcatcctcg gtctctggaa 1200 agtcaggctg agaaatcctt tcccaggcca ggccgctgcg gtacactgga tggttctgaa 1260 gctggcccat tgaaagagcc tcttaaggca gctgggacag aggcctggtg cgcctgctgg 1320 gcagcccaac tgctggggga gacgtttctg ccaccctggg tgatgagcag cttttccccc ctggctttct ggaggaggag tgggcctcct tagggagaca ggtgaccctg ggtgccaccc 1380 1440 ctgccccgtg tgtgccccgg gtgttctcag tggttgctga aggcaggtag agggtgctgt 1500 ccagtatece ccatgtgaag gteaettece tteteatgga gteagetgag cateagetea 1560 gccctgccat gtccccacte accetecteg cetectgtee ggccetgggt ttctageegt gcctgaggca tcactctggc ccattgacag atgagaggtc tgaagccttc ctggccacag 1620 1680 gcatcacttt ctcctcctcc tcatgccctg ccttgtcctt gtcgtgttgc catggggttc tgagaggctg ggagttcaca gacctcagac acagctgagt ccgacaacca ttggggtggg 1740 1800 gctgcatcag tctccggagt ggcccgccac ctcctgaagc agggcctggc ccaccaagg 1860 tgcctggggc aggcgggcac cgtcattcgc tgccattggc ttctcagatg tatttcaagg actaaagtgg gctctaagat ctaagatggc ccggcgcggt ggctcccgcc tgtaatccca 1920 1980 gcactttggg aggccgaggc aggcggatga gttgaggtcg ggagtttgag tccccgtctc 2040 tactaaaaat acaaaattag ccggacaagg tggcgcatgc ctataatccc aggtgctcag gaggctgagg caggagaatc acttgaacct gggaggcaga ggttgcagtg agccaagatt 2100 2160 2220 aaaaaaaaa gatctaagat acccattctt tctgcctttg cccaggatgg aggctttgaa 2280 gacaggtggt cacctggacc tggggtaagg gtgcgcaggg aggccgggct tgggggcagc 2340 ctgctgctac gtccttgctg gcgcccatac ctgttggact gcctgaactt tgctactagc ctgaacgaca gtgccttgga aaggcaggct ccatgcggca gcaacaggat tgtcttcggt 2400 accttaaata tgctccctgt gcttccccag ggaggatctc tgggagcaga gggcggctgt 2460 agacatcaca gctgaagagg tgacctcagg ccctgggagc ctcagctccc tctgccctgt 2520 accctaggca cgtggctcca gcaagagccc caggcaggac aaagggagca ggcagcagct 2580 2640 tgatgtttct cctaaggcca aaccccaggg gtgggtcatt tgagaggagt tccagctgtt 2700 ctggccacac tgggctggtg gggaaggagc ggcggcctct ttccttggag ggtccctgat 2760 tcctgaggat cctccccgag ccaggcacgg gggaccacag ggctgccgtg agcacccacc 2820 ctggttctcc aggcccctct gtccagaggc agggcctgaa cctcgggctc ctgcctggac 2880 2940 cagtgacagc attggggaga gaagcactgg gggtcttctg accagccagc aaggggccgt gccagtgccc agagagcagg tcagacaaca ggcaaccctg aggcagctgg ctccctctct 3000 ctgccctgca gggcttgcgc agggcgtgag gctccccagc cacagccccc tcttacttgc 3060 cttaaaactg gagagaggaa tctagtattt gcacttagca aaatatttaa aaactgaaaa 3120 aaatgtgcat gatctgtcac tttgtataaa aacaagaaac gattagttca ttaaactttt 3180 tctttacctt ctggtagtaa aaatagataa aataattccg tttcaactac tgtgtgtaaa 3240 aagcctgtat catatgtaac tgggactttt gtaaataaat gtttgtgcgc tctgctccct 3300

```
3360
ccaqcttcgt ctctccaccc cgccatccgg caagttacag gggccgccga cagattcgtc
caagtgattg ggtctaaacc agcatcctca cctccccgac tgggtcctgg caggagcagg
                                                                     3420
                                                                     3461
cccggaaggc ccagtagtaa gatccccacc actcccctgc c
<210> 12998
<211> 344
<212> DNA
<213> Homo sapiens
<400> 12998
                                                                       60
tttcaggctg tgcccactca gacccagccc tctccaaacc cttctcatat ccaccacttg
cacgcagete agtgcatgga ggccetecat ecceecacet caccaggeag etgeetgeea
                                                                      120
                                                                      180
tgctcagacc cctctgccca gccttgtgga tggcctcctt gtggaacgcc atcaggctga
                                                                      240
tgaaggaagg aggccttcgg ggaaatagga aggaacggtg tgcagcccag gccccactgg
                                                                      300
ccagcagcag getteggget tgttecatgg ccataagcaa caageggeet ceteactgte
                                                                      344
ccacggggcc tcagcactgc atgaagctac aggttcatcc ttct
<210> 12999
<211> 195
<212> DNA
<213> Homo sapiens
<400> 12999
                                                                       60
ccaagttcaa gcgatcctcc tgcctcagcc tcccgagtag ctgggattac aggcgtgtac
                                                                      120
caccacgcct ggctaatttt ttgtaccttt agtagagaca gggtttcacc atgttggcga
ggctggtctc aaactcctga ccttgtgatc tgcccgtctc ggcctcccaa agtgctggga
                                                                      180
                                                                      195
ttacaggcgt gaggc
<210> 13000
<211> 1464
<212> DNA
<213> Homo sapiens
<400> 13000
                                                                       60
ggcttccata tcagaagcct tgacttagga gtcagacctg ggttcaaagc ctagtttcat
catttcttag ctatgtgact atggggtgtt tacttaacct ctctgagatt tctttccttg
                                                                      120
                                                                      180
atttataatg tggcatgagc aatacctgcc ttgcagtgtt gcatgtggtg atgtgtcttg
                                                                      240
cttggagctt cctgtggagt ttgctccttc atgggttcat tcactccttt ttttcattca
                                                                      300
tttcttcatg tgctgttaca tgtacctagg aacatatagc ttagtagctt agcagcttag
                                                                      360
cactaggcgc tgggcacaaa agggtggaga gggtgtgtgc ttagcctttt gtggctggta
                                                                      420
actctgggcc cagagttgag gggaatgatt tgactggcga ggcagactct gcttggtccc
                                                                      480
attgtaaacc agtcatagaa gagatgcctg tcctgggtag ggccctctct tccttcctgg
tagtgttctg agcattgtct ggatgacagg cctattgagc agtagcctgt ggacttggga
                                                                      540
                                                                      600
gggaaactag ggctggagag cagctctggg aggcattggg gagggcgtag gtgcgatgag
tcaccatcct ccctcaagga cgtcttgggc aagttgtctg gccccattag ccagcaacca
                                                                      660
gggaaatgta gctgcaggaa aatcacctcg tttcctcggg atgtttttc ttaggctggt
                                                                      720
ttcctttaca agctgcaatt atgttccatc ccacgcaagt tcagtaagtg gcacttttca
                                                                      780
gagaaactgt cttggtgatc atttgggctg ctgtgggcca gggagttgag gagagaaggg
                                                                      840
                                                                      900
agtgagagct tctactgagt ttagttggtt ttgtgtccat gagccattta caaactttgc
acctgattgg gctcagttgc agtttcttgt atttccctac cagccaagct gttgaagctg
                                                                       960
                                                                     1020
ctgagcccgg aatgatgtta tcactgaggc agatgacaaa ccctctagtt gctagaaacc
aaactgctcc ccgagctggt gtttccgttt tttgtactga ctgcttattt gggcttgata
                                                                     1080
                                                                     1140
tataatggtg aaaacaggaa ctgtttattt taggtgataa gaaaccaaca ttatgacaag
aagatgtcat cttagttact ctgttaccag taccataggc cagatactat ctagatgctt
                                                                     1200
                                                                     1260
ataaacatct tatctaatcc ttgtaataat aagccccaag ctaggtttta tatccccatt
ttatggatgg gggaactgag gccaataact tcatataact tatccaaggc cacaaaacta
                                                                     1320
gtaataaaca gagtgaaatt caacccaaaa acaaactaca aatccaaatt tctttacctc
                                                                     1380
tatgctgtct gtacttgctg ttactagcaa agttctcttg gtgggagtta ccccatcccc
                                                                     1440
```

```
1464
tctccaaaaa aaaaaaaaaa aaaa
<210> 13001
<211> 194
<212> DNA
<213> Homo sapiens
<400> 13001
acacggcgaa accccgcctc cactaaaaat acaaaaaatt ctatgggcgt ggtggcgggc
                                                                     60
                                                                    120
qcctacagtc ccagcttctc cggaggctga ggcaggagaa tggcgtgagc ccgggaggcg
gagcttgcag tgggcggaga ttgcgccact gcagtccagc ctgggcgaaa gagccagact
                                                                    180
                                                                    194
ccqtctcaaa aaaa
<210> 13002
<211> 435
<212> DNA
<213> Homo sapiens
<400> 13002
                                                                     60
aagcattcag acctgcccag ggtttgaact cctgagatta acagtctcaa gttcgagcaa
tgggactcgg gaattaaagg tccaccgaag ctgtgcagtc ttccctttgg tatccccaaa
                                                                    120
ggaagagttg cacatgggta cacttgacac ccattcccac atcccacata ttaaagccca
                                                                    180
                                                                    240
gtgatgcccc acctcactgt gccagtttgg caaactccct tgcgagcggg gaccttttgc
                                                                    300
taagtgactg cctcagtaaa tctaactcgt tagtttaatg aggcagcaaa cgtggcctct
                                                                    360
qtqccatcaa ttatgaaaag agctcctctt tgagcaaaag aaaagctcca accaaggaaa
                                                                    420
agtgtcttct gtggaaagct agtgcaaagt taggaggcct ggttgccatg gcaacagcct
                                                                    435
cagtggtgtg tgtgg
<210> 13003
<211> 805
<212> DNA
<213> Homo sapiens
<400> 13003
atggggctag ccacacatat gttttacaat acttggtctg caatgctgtc ttttgggtct
                                                                     60
gagtttcttc tcaggagggt atctttgggc cagcaataac aatcattgtt cagttataca
                                                                    120
                                                                    180
aactttataa tttctgaagt aatttcctat acatcatttc acttagtctt tacaaaaacc
                                                                    240
ctatagagaa agcagggtaa agtctgaaat aataaataat aatcagttaa tggaaataga
                                                                    300
gtatctacat cctggaaatg atggctatgt tatacactat gctagctcta gacattcttg
                                                                    360
tatgtggatg aaattagctt caatacaacc atatgaacag attgggtcca gaggcagagg
gaggcacaca cagatcattt gacttgcgtg cttcagatga ggaaacacgc atagagggtt
                                                                    420
aagtggcttg cagaagggca accactaggc aggggtagag gcagaacttg aaactacaca
                                                                    480
                                                                    540
cacccaacaa atagttccca tatgtgcctg gccttggggt agggagacag atgcaagacc
agtaggccct tcctccaagg agctaccagt cctgcaggag aaagacatcc ctcattattc
                                                                    600
                                                                    660
ggtttcttcc acttgtgtct acagccacaa gccctggccc cagctccctg ctctctccc
                                                                    720
tctgatgcag gattatactt gcagtctcag acacccaagc aagggttatt cttgggaagg
                                                                    780
                                                                    805
ggcaaccaca cggcttctaa tcctt
<210> 13004
<211> 852
<212> DNA
<213> Homo sapiens
<400> 13004
ttttttttt tttaaatgaa aaactaactg gggaaataca ttcttggatg gggctagcca
                                                                     60
cacttatgtt ttacaatact gggtctgcaa ggctgtcttt ggggtctgag taccttctca
                                                                    120
```

```
ggagggtatc ttggggccag caataacaat catggtccag ttatacaaac tttataattt
                                                                 180
ctgaagtaat tccctataca tcatttcact tagtctttac aaaaacccta tagagaaagc
                                                                 240
                                                                 300
agggtaaagt ctgaaataat aaataataat cagttaatgg aaatagagta tctacatcct
                                                                 360
ggaaatgatg gctatgttat acactatgct agctctagac attcttgtat gtggatgaaa
                                                                 420
ttagcttcaa tacaaccata tgaacagatt gggtccagag gcagagggag gcacacacag
                                                                 480
atcatttgac ttgcgtgctt cagatgagga aacacgcata gagggttaag tggcttgcag
                                                                 540
aagggcaacc actaggcagg ggtagaggca gaacttgaaa ctacacacac ccaacaaata
                                                                 600
gttcccatat gtgcctggcc ttggggtagg gagacagatg caagaccagt aggcccttcc
tccaaggagc taccagtcct gcaggagaaa gacatccctc attattcaaa taatacattt
                                                                 660
720
tgtgtctaca gccacaagcc ctggccccag ctccctgctc tctctcctct gatgcaggat
                                                                 780
                                                                 840
tatacttgca gtctcagaca cccaagcaag ggttattctt gggaaggggc aaccacacgg
                                                                 852
cttctaatcc tt
<210> 13005
<211> 530
<212> DNA
<213> Homo sapiens
<400> 13005
60
                                                                 120
ccacgagggg tggaagcacc aggtgaaaca gcccggaaca ctgaaggtga cttgttggtg
                                                                 180
tgtggctaga gccaggtgct taacccctca tgctgtgacc ctgcgctgcc atcctcccac
                                                                 240
cccagaaatc ctgctctgct gttttgtggg gctcccagtg ggctgataaa aggcagggca
tgagaaacag gcctggggca cacccagcag tgcttgccgc acaagaggaa cagggtgttt
                                                                 300
                                                                 360
gtagccctcg ttgagtttga gaactctaaa agttctcaac tttgtacaac agaaaactaa
tgaggcgcga caacccccac tgccccacct tgccaactac aatgtgaagg gaacgaccat
                                                                 420
tttcccgact gtcaataatg ttctgagccc cgtggaagat gagctgccca cacagagccc
                                                                 480
                                                                 530
tcgagtgtcc tgtgaggaag ataggcaggt ggtgggtcat gtggtttgtt
<210> 13006
<211> 530
<212> DNA
<213> Homo sapiens
<400> 13006
60
ccacgagggg tggaagcacc aggtgaaaca gcccggaaca ctgaaggtga cttgttggtg
                                                                 120
tgtggctaga gccaggtgct taacccctca tgctgtgacc ctgcgctgcc atcctcccac
                                                                 180
                                                                 240
cccagaaatc ctgctctgct gttttgtggg gctcccagtg ggctgataaa aggcagggca
tgagaaacag gcctggggca cacccagcag tgcttgccgc acaagaggaa cagggtgttt
                                                                 300
gtagccctcg ttgagtttga gaactctaaa agttctcaac tttgtacaac agaaaactaa
                                                                 360
tgaggcgcga caacccccac tgccccacct tgccaactac aatgtgaagg gaacgaccat
                                                                 420
tttcccgact gtcaataatg ttctgagccc cgtggaagat gagctgccca cacagagccc
                                                                 480
tcgagtgtcc tgtgaggaag ataggcaggt ggtgggtcat gtggtttgtt
                                                                 530
<210> 13007
<211> 983
<212> DNA
<213> Homo sapiens
<400> 13007
                                                                  60
gattttgcaa agccacagaa caatgtgtga ccagcagaag cagccacagt tccctccatc
ttgtgtgaaa ggttcgggac taggggctgg gcagggtagc aatggtgcct ctgtgaaatg
                                                                 120
                                                                 180
cccagttcca tgccagaccc aaactgtctg tgtgacaggc cctgctccat gccctactca
                                                                 240
aacttatgtg aagtaccaag ttccatgcca gactcaaacc tacgtgaagt gcccagctcc
                                                                 300
ctgccagagg acctatgtga aatacccaac accctgccaa acctatgtga agtgcccagc
                                                                 360
tccctgccag acaacctatg taaaatgccc aactccctgc caaacctacg tgaagtgccc
```

```
420
agctccctgc cagatgacct acatcaaaag tccagctccc tgccagaccc agacgtgcta
                                                                      480
tgtccagggt gcttctcctt gccagagcta ttatgttcaa gctcctgcaa gtggctcaac
                                                                      540
ctcccagtac tgtgtcactg acccatgctc tgctccctgt tccaccagct actgctgtct
ggctccccgg accttcgggg tgagtcccct gagacgctgg attcagcggc cccagaactg
                                                                      600
caacacagga tcatctggct gctgtgagaa ttcgggaagc tctggatgct gtggttctgg
                                                                      660
                                                                      720
gggctgtggc tgcagctgtg gatgtggcag ctctgggtgc tgctgtttgg gaattatccc
catgaggtcc cgaggtcctg catgctgtga ccatgaggat gactgctgct gctaaacata
                                                                      780
                                                                      840
cgacagetca actecagaat geactgeece getacecett etggaacatg caccagette
                                                                      900
tggcccctc tctgttagtg ccagtgatgt agaacctcat cactttgcct ctgtgctttg
                                                                      960
cttctctacc aaggcagcct gccagagtta gtacagtccc caaactttgg catgaataaa
                                                                      983
gctctgaatg catttcgtgg taa
<210> 13008
<211> 3587
<212> DNA
<213> Homo sapiens
<400> 13008
ggggaatcct gtgcatacac cagagtgctc acttttggtg gatagttctc ttctttctga
                                                                       60
tattctgccc tgcaaattct agctaccttg gcttccctga cctctgaatt cttgtctgct
                                                                      120
caactcaagg agaccgcaag tgactgtatg ggttcttatc cctacacgct ggcctggaaa
                                                                      180
ccctctgtag ctggggcaaa tatagacttc actttctttg tatcctttat ctcaggaatc
                                                                      240
cctgtcctgt gctgtttgct gtccagtgtc caagaactgt tgtttcatat attttgtctg
                                                                      300
gttttattta aggaaggagg ataaatgtgg cctctgtaat tccctgtgac ctgaagcagc
                                                                      360
tgataagtcc catattttat aacaaaagac tgacttctta gatgtccttt ctcatataat
                                                                      420
ttatactctc tatatataac aattgaattg taactcataa aattatagca gtgtcagatg
                                                                      480
                                                                      540
tgtccatcaa ttaagttcca taatacataa gaataaaatg gaaagtacat tgtgaacttc
gatagacatg ttcacagaat aacttgttat tacttggttt aaaagtgcaa tcctagttca
                                                                      600
tttgtttata tattttctaa aagtttttat agatctctga attaaaatac ttgtgatgat
                                                                      660
atttctgctt ttatctgtat tttatgttcc aaaacttcac aaattatact gttaactagg
                                                                      720
tttgtatacc ataaagacaa atgttgaata aatagctgtt ctttcaattt ctttaaaaaa
                                                                      780
aagatccaag atgggcatta tattcattgt atgtttacaa attcttacat tttagttatt
                                                                      840
cttcagcaaa aaatccagat ggatgttttt ttcagaaagt gttgaatggg tttacaaagt
                                                                      900
ttttttgtaa ggaacaatat tgcaaattac taaaattgta tttttatagg ctgtttgctc
                                                                      960
ttttgtggat attgtgcctg tcaggattct tgaaggtaag ttatgttata atggttaatt
                                                                     1020
tgaaatataa ttctggctgt gtcaatataa ataacctcaa aaagctataa gagatactct
                                                                     1080
tatgatagga cacttagtta taattatcca gaacatttgt atatagaatg attatagaat
                                                                     1140
tatcccttta gaaaatcagg gtcttgtgtt ggtccttatt attgactgaa aaaaagatga
                                                                     1200
atgaataaat gaattaaatt acatagaaag aggcccttgc ttacaactgc caagctccag
                                                                     1260
tggcacattt aattgtgaaa aacgaaatat atttttaaat aatttatatg tggaatgctg
                                                                     1320
tttttcaaag tgggtaattt agtttaatgg aatataacca ctcattcatc cttccatcca
                                                                     1380
                                                                     1440
acagaggcaa gtttggactt gccttgcctt tttctgcttt taacatttgt attcaaagtt
                                                                     1500
gtacaccatt gtcaaatgta taatgtagca gtaaatcatt agaggaagta agttaagtcc
                                                                     1560
tgttaatact gttctcaaat ataaacatat ttctttaatc tcttccctat agttttttt
ttatagtgag ataatggagt tggtcttagc cgctgcagga gcccttcttt tctgtggatt
                                                                     1620
catcatctat gacacacat cactgatgca taaactgtca cctgaagagt acgtattagc
                                                                     1680
tgccatcagc ctctacttgg atatcatcaa tctattcctg cacctgttac ggtttctgga
                                                                     1740
agcagttaat aaaaagtaat taaaaagtatc tcagctcaac tgaagaacaa caaaaaaaaa
                                                                     1800
                                                                     1860
ttaacgagaa aaaaggatta aagtaattgg aagcagtata tagaaactgt ttcattaagt
                                                                     1920
aataaagttt gaaacaatga ttaaatactg ttacaatctt tatttgtatc atatgtaatt
                                                                     1980
ttgagagett taaaatetta etattettta tgataeetea tttetaaate ettgatttag
                                                                     2040
gatctcagtt aagagctatc aaaattctat taaaaatgct tttctggctg ggcacagtgg
                                                                     2100
ctcacgcctg taatcccacc actttgggag accgaggcag gtggatcacg aggtcaagag
                                                                     2160
gttgagacca tcctggccaa catggtgaaa ccccgtctct actaaaaata caaaaattag
                                                                     2220
ctggatgtgg tggcacacac ctgtagtccc agctagtcaa gaggctgagg ccagagaatc
gcttgaacct gggaggtgga ggttgcattg agccaagatc acgccactgc attccagcct
                                                                     2280
                                                                     2340
ggtgacagag cgagactcag tctcaaaaaa aaaaaaaaa tttttcttcc taaattagcc
                                                                     2400
acgcatagcg gttcgtttgc aattcaaaaa taattttatg agtagataag aatatcagtt
                                                                     2460
taccgttgtc tagtgatttt atctaaattt tccctgaatt attaagtaat attgatttgg
ctttgattct gaagtagtag agtctttacc attataaact gtaaatctct ttttgcttaa
                                                                     2520
```

```
aaggaaaaaa atgtaaaaga taaattccac agagaattat tcagtattac attaaaatgt
taatgacttt ttattttaaa ttgtactaac attaaaagtt ggcctgaaag tcagatatta
                                                                    2640
tgacaaaatt tgacattaat tgtttttaaa gtatagattt catttgaaat tatagaatgc
                                                                    2700
                                                                    2760
taatgtggtt agaggacacc aaagatactg ggtcatcagc cattaagtat atctatttca
                                                                    2820
aaattaaaat atttgggaag tattgtctta tggtttcatt tgtgttggtc cacacagcat
                                                                    2880
qttaggtcag tgtaccagta accaatgaaa ttttgtcaaa ttccctcact gtactagttt
gttaggctgc cataacaaag ttctacagct tgggtggctt caacaagaaa tttgttttcc
                                                                    2940
cacagttctg gaggctaaaa gtccaagatc aaggtgttag cagggttggt ttcctttgag
                                                                    3000
gcctttctct ttgatttgta gatggccatc ttctccctgt gtctttaaat ggccttccct
                                                                    3060
ctgtacttgt ctgtgcccaa atttcttctt cttatgagga caccagtcat actggattag
                                                                    3120
ggcccacact gaggacctca tttttcctta attatctctt tcaaaaccta tctccaaata
                                                                    3180
cagtcacatt ctgaagtgct gggattagga tttcttcatg tgaattttgg ggggactaca
                                                                    3240
                                                                    3300
actcagccca taacaccccc taagtatttc ccagctatta agttgaaata aacttgtagt
atcaatttaa gettgeatga tttgtagatg taaatttgae tttattatea ttaactgttg
                                                                    3360
aattatcaag tgtatgatgc agtgcaatca agtttaacag catggtgggt aagagcatct
                                                                    3420
agattagaat cattgcagtc caaccaggtg cttaagtgac atttggcgaa ttatttatcc
                                                                    3480
ttccttaggt cttctgcctc atcttcataa tgggaataat gatgtctagc ttattgggct
                                                                    3540
                                                                    3587
<210> 13009
<211> 650
<212> DNA
<213> Homo sapiens
<400> 13009
                                                                      60
ttattcctct gtatatgttt cctccacaca tacagagcta cttttaccat tttttcttta
                                                                     120
tcactqqttt gcagtaattt gattaaaata ttccttggtg tggttccctc cccctccact
                                                                     180
tttcttctgt ttcttggatc tgacaatgta aagttttcct caaatttgga aaaaaaaatt
                                                                     240
gtttaagaga tggggtcttg ctgtgttgcc taggctggac tcgaactcct gggttcaagt
                                                                     300
gatccctcca cctcctgagt agctgggatt acaggcacac accactgtgc acagctcaaa
tctgggaaat ttttggccat tatttcttca aacatttatc tgtctcccct tctttctcct
                                                                     360
                                                                     420
ttgcttgaga ctccagttac atctgtgtga gacttctaga tgttgtcccc taattcactg
ttctgttttt tttgtttgtt tgtttttctt tgtctttttc tctctgcgat tcattttggt
                                                                     480
                                                                     540
tagtttctat tgctgttttc aaatttagta atcttcttca gtgtctaatc tgctattaat
                                                                     600
tccaatcaga atatttgtgt ttcatatatt gtatttttaa tcaattaaag ttcagttcaa
tttgtgtctt ttgaaaaaaa atagtatctt ccatttctct cctcctcatg
                                                                     650
<210> 13010
<211> 12509
<212> DNA
<213> Homo sapiens
<400> 13010
ggagttagcg acagggaggg atgcgcgcct gggtgtagtt gtgggggagg aagtggctag
                                                                      60
ctcagggctt caggggacag acagggagag atgactgagt tagatgagac tagggggcgg
                                                                     120
gctgggggtg cgagaaggaa gcttggcaag gagactaggt ctagggggac cacagtgggg
                                                                     180
caggctgcat ggaaaatatc cgcagggtcc cccaggcaga acagccacgc tccaggccag
                                                                     240
gctgtcccta ctgcctggtg gagggggaac ttgacctctg ggagggcgcc gctcttgcat
                                                                     300
agctgagcga gcccgggtgc gctggtctgt gtggaaggag gaaggcaggg agaggtagaa
                                                                     360
ggggtggagg agtcaggagg aataggccgc agcagccctg gaaatgatca ggaaggcagg
                                                                     420
                                                                     480
cagtgggtgc agggctgcag gagggccggg agggctaatc ttcaacttgt ccatgccagc
agcccctttt tttccagacc aagggctgtg aacccgcctg gggatgaggc ctggtcttgt
                                                                     540
                                                                     600
ggaactgaac ttagctcgac ggggctgacc gctctggccc agggtggtat gtaattttcg
ctcggcctgg gacggggccc aggccgggcc cagcctggtg gagcgtccag gtctgggtgc
                                                                     660
gaagccaggc ccctgggcgg aggtgagggg tggtctgagg agtgatgtgg agttaaggcg
                                                                     720
ccatcctcac cggtgactgg tgcggcacct agcatgtttg acaggcgggg actgcgaggc
                                                                     780
acgctgctcg ggtgttgggg acaacattga ccaacgcttt attttccagg tggcagtgct
                                                                     840
ccttttggac ttttctctag gtttggcgct aaactcttct tgtgagctca ctccacccct
                                                                     900
tcttcctccc tttaacttat ccattcactt aaaacattag ctggtcatct ggtaagcccg
                                                                     960
```

ggacagtaag ccgagtggct gttggagtcg gtattgttgg taatggtgga ggaagagagg 1020 1080 ccttcccgct gaggctgggg tggggcggat cggtgttgct tgcctgcaga gagggtgggg 1140 agtgaatgtg caccettggg tgggcctgca gccatccage tgaaagttac aaaaatgett 1200 catggaccgt ggtttgttac tatagtgttc ctcatggcga gcagatggaa ccgggagaca 1260 tggagtccct ggccagtgtg agtcctagca ttgcaggagg ggagaccctg gaggagagag 1320 cccgcctcaa ttgatgcctg cagattgaat ttccagaggc ttaggaggag gaagttctcc 1380 aatqttctqt ttccaggcct tgctcaggaa gccctgtatt caggaggcta ccatttaaag 1440 tttgcagatg agcttatggg gggcaatctt aaaaagtcca cagcagatgc atccggctcg 1500 aggggccatc agctttgaat aaatgcttgt tccagagccc atgaatgcca gcaggcaccc 1560 ctcctttcct ggggtaaagg ttttcagatg ctgcatcttc taaattgagc ctccggtcat actagttttg tgcttggaac cttgcttcaa gaagatccct aagctgtaga acattttaac 1620 gttgatgcca caacgcagat tgatgccttg tagatggagc ttgcagatgg agccccgtga 1680 1740 cctctcacct acccacctgt ttgcctgcct tcttgtgcgt ttctcggaga agttcttagc 1800 ctgatgaaat aacttggggc gttgaagagc tgtttaattt taaatgcctt agactgggga tatattagag gaagcagatt gtcaaattaa gggtgtcatt gtgttgtgct aaacgctggg 1860 agggtacaag ttggtcattc ctaaatctgt gtgtgagaaa tggcaggtct agtttgggca 1920 ttgtgattgc attgcagatt actaggagaa gggaatggtg ggtacaccgg tagtgctctt 1980 ttgttcttgc ttcgttttt taaacttgaa ctttacttcg ttagatttca taatactttc 2040 2100 ttggcattct agtaagagga ccctgaggtg ggagttgtgg gggacgggga gaaggggaca 2160 gcttggcacc ggtcccgtgg gcgttgcagt gtgggggatg ggggtatgca gcttggcact ggtactggga gggatgaggg tgaagaaggg gagagggttg gttagagata cagtgtgggt 2220 2280 ggtggggtg gtaggaaatg caggttgaag ggaattctct ggggctttgg ggaatttagt gcgtgggtga gccaagaaaa tactaattaa taatagtaag ttgttagtgt tggttaagtt 2340 gttgcttgga agtgagaagt tgcttagaaa ctttccaaag tgcttagaac tttaagtgca 2400 2460 aacagacaaa ctaacaaaca aaaattgttt tgctttgcta caaggtgggg aagactgaag 2520 aagtgttaac tgaaaacagg tgacacagag tcaccagttt tccgagaacc aaagggaggg 2580 gtgtgtgatg ccatctcaca ggcaggggaa atgtctttac cagcttcctc ctggtggcca 2640 agacagcctg tttcagaggg ttgttttgtt tggggtgtgg gtgttatcaa gtgaattagt 2700 cacttgaaag atgggcgtca gacttgcata cgcagcagat cagcatcctt cgctgcccct 2760 tagcaactta ggtggttgat ttgaaactgt gaaggtgtga ttttttcagg agctggaagt 2820 cttagaaaag ccttgtaaat gcctatattg tgggctttta acgtatttaa gggaccactt 2880 aagacgagat tagatgggct cttctggatt tgttcctcat ttgtcacagg tgtcttgtga ttgaaaatca tgagcgaagt gaaattgcat tgaatttcaa gggaatttag tatgtaaatc 2940 gtgccttaga aacacatctg ttgtcttttc tgtgtttggt cgatattaat aatggcaaaa 3000 tttttgccta tctagtatct tcaaattgta gtctttgtaa caaccaaata accttttgtg 3060 3120 gtcactgtaa aattaatatt tggtagacag aatccatgta cctttgctaa ggttagaatg 3180 aataatttat tgtatttta atttgaatgt ttgtgctttt taaatgagcc aagactagag gggaaactat cacctaaaat cagtttggaa aacaagacct aaaaagggaa ggggatgggg 3240 attgtgggga gagagtgggc gaggtgcctt tactacatgt gtgatctgaa aaccctgctt 3300 3360 ggttctgagc tgcgtctatt gaattggtaa agtaatacca atggcttttt atcatttcct 3420 tcttcccttt aagtttcact tgaaatttta aaaatcatgg ttatttttat cgttgggatc 3480 tttctgtctt ctgggttcca ttttttaaat gtttaaaaat atgttgacat ggtagttcag 3540 ttcttaacca atgacttggg gatgatgcaa acaattactg tcgttgggat ttagagtgta ttagtcacgc atgtatgggg aagtagtctc gggtatgctg ttgtgaaatt gaaactgtaa 3600 aagtagatgg ttgaaagtac tggtatgttg ctctgtatgg taagaactaa ttctgttacg 3660 3720 tcatgtacat aattactaat cacttttctt cccctttaca gcacaaataa agtttgagtt 3780 ctaaactcat tagaattgtt gtattgctat gttacatttc tcgaccccta tcacattgcc 3840 ttcataacga ctttggatgt atcttcatat tgtagattta ggtctagatt tgctagctcc 3900 aagtaattaa ggccatgtag gagagcatgg taaccacaga tagaactggt attatcccaa gtggtctgca gactgctgag tggggatggg atctgctctc tgttgagagt tggtaatcat 3960 tggtttgaaa tgtgatgaaa ccactcaagc caatgaaggt gggtgtgtag gtggggagta 4020 4080 ctttgccata atattttaaa acattacctg gttagagttc taagtggtac ttatttttgt ttggttaggg gaaagcctga ataaaaacag aaatggacac ataatatgca tattccatag 4140 4200 tctttgggag gctggaatgt gcctgggatt tgggtctaag tgtatgcgta attcttacct 4260 cactaaagaa tttgccttgt tttttcctt ttggtgagtg actaaaacgt ctgggcttcc ctgtgtgcgt gctacagtaa gcaagcagag gctgtgcaaa ggtgtgagca ggatcacgtg 4320 gaatctggag gatacatctt ggcttgcaaa ctgcctctgt ctcctgggtg ggactgttct 4380 4440 gtccttgcac tgctgttctg tgttacctct tggggtgtaa ggttttgctt acaggagaca aactttgggc gtagaatgga agccactgcc agcctctgtg ctgagaagga aggtgcttgt 4500 ttcaaaggga gcagcaaggg aggcttgttc tactcacctg ggcctgtttg cctgagaagg 4560 ggagataagg gctgaactgg gactagccag ggggaccaac acaaatggtg ggggatcatg 4620

acctgaagga ttctttcctt cccatgagct gcagggctgg ttgccgtcct tgcaactgtg 4680 tcttatttgc ctgtgccgtt atatcttggt gacccctcca cgtgtacact actgacaaac 4740 4800 gggtggagtg ctggggagaa gtcactgtgc cgcccaccta gtaaaccttc tgtctgtgct catggcatct ccaagatggg gcactgctgt gtgcagaatc cagggtcctc tttctgcttg 4860 4920 caactccttt ccctggatgc cccagaaaca atccaggcct cctttcctat cttacccctt 4980 tgctttgctt tttaccccag cacctctata accgccttct cttcttttca gaactccttg 5040 tttctcatcc tqttttttat gattacaaaa ctcttgcttc caccctggaa gataactgct atagatgcct gtatgtaaat ggtgctgtct ccagcaactg gcatgctgaa gaagaattga 5100 5160 ttcacggggt ataaatgttg gggattggaa gtggggatga aatggcactt gttgatacag 5220 atccaggggc tggggccaca ttctttgcct tcatttatcc tcagatcagg tgagatcgac 5280 aggaggtgtt gatggcagtg ccagcaatta ttgctaatcc gtttgcatcc ttatgcatag 5340 5400 atctgaattc agactttgtg aatttccaga ggtgtgggta atataataga attcagtgag tgggcatggc tgatcttgtg caaattaaaa gttatggggc ataagaatag caaaagttga 5460 acttctttta aaaaggaaag taccctgaga gccagtattg gttgaggctc ttcagtatgc 5520 ccaggttggc agcactgaga accgcaggaa cggcctgttg ttacaaaaag gagattgact 5580 cagctgccct tggtgcatct gactgactat gactgctgag agattccaag gacccttaat 5640 5700 gccagggcta acctctccat gtgcagtgag acctctggag gaagtgtcat cctctggctt 5760 tgtgtggtac tcattatggt gcagtgcggg catgaaatga agacacccaa ataggcttac 5820 agatacgata tgttttaaat gttcgtattt aacaaaaaca tactgacact gtttggaaat ggcaacagga agatagcaaa atgaatacta acattacgaa aagatgaaca ggtacatgtt 5880 ccaaggcagg tggctgtgaa cttcctctga gtgaaggcat cccctccagc acctttcagc 5940 6000 ctgctagtta ggacgacccg ccgccaccct ccaggacctc cagccctgca ctgcctttcc 6060 tctcttttaa ataattcttc attgagttct aatatgtaaa aaaaaaaagt ttactgtaaa 6120 gtttgcaaat aaggaaattt tttttaaaag tcctcagtaa tcttaccagt aacaattgtt 6180 atgggcacat ttgcttttgg aagatttctt ttgtatgcat gggataagta catttttaaa 6240 caaaaatggg attatgccat aaattctatt ttgtgacttt aatatatagt gaacaccttt 6300 tttaatgatg acaggatgtt cccttgcatg gctgtatcaa tttaaacaat cttgtttcaa 6360 tgggcataca gggtattttc tagttttttt ttcctcttag aaaataatac ttgcgatgac 6420 tttccttgta gctcagactt tttcacgtct gttgttatct ctttgggaat gctgaataca tacatttcga gaaggaaatg actgttaaac tcttaagact tcaggttcat attgctaaac 6480 6540 tgcccagcag ggagggattt tttcaattag tgttctcact ggtgaggcaa acctgatgcc ttcccctctt cctcagaacc ggctttatca cattgaaaac ctttgctcct ccgacggatc 6600 6660 gagtctgctt tccctgtgga tgtgagcatt gctttgtctg ctggtgactg aacatctcta 6720 6780 gtgtatgatt ttctaattcc tagtcatttt tctattgatt gttttgcaaa agccatttac 6840 atcttaagga tattgataat cttttgttat atttgatgca aatatttttt tccagtttat 6900 aggttgcctt ttaattttgt gtttcaggta gataaaagtt aaacgatttt cttaggttag tttatcactg tggtttctga acttgttatg tgtagatctt ttccacccca agagtacata 6960 7020 aatattaatc catactttct tatggaactt gtatggtttc gttttttaca tttaaacctt cttccccgtg gtgtgttgt tggaatctgt gtttgtgtga ggaggggcat ggtgctctca 7080 7140 gaacccacct cctgtggcca gagagccctg tcctgtgagg gtggttatca cagtggcagg gttcaattca gaagaccttg agggcaggct gatgtttcct gaatgggccc ctggttgttg 7200 7260 cttgtccctg actctccatt tccccatctg agtggatttg gacctaatag ggcactggag ctggttcgaa tcctgactgg actacttggc aactttatgt ctgggagcaa gttacttaac 7320 ctccccaagc ctgtgtctgt gaaatgcggg taaatgaatg tagatgtttg gcagcagcta 7380 ctccttgttg agctctcaca gtgaactctc ctgcctctgc cctccttccc cgcctcccct 7440 ggtgcctagc gtcaggtcta gccacttcct cctgggcccc tctccctttt ctgtggctgg 7500 ctgcctgccc gcctggcgct ggacctttca tgtaacggga atcagcatgt atattctggt 7560 ctggtctgtt tctacactta attttgtttc cagtagtatt tccctgtacc ggcagagttc 7620 7680 acaaacacat ttgaagaggc tttttctcag gattcttaac cttcccaaag gaagtcccat ggatgggttt ctagaagtct ataaatgctc tgaaattgta tttttctgtg gaaagcataa 7740 ctttcatctg cttgttcgtg ctcaaaaaag atcatgaatg aatgattgca tgattttatg 7800 7860 ccattgtgct tatactaaag gatatgtagc ccatctcttg agctgttaaa ctgttttgac 7920 tactttaaat cgtgcagctg tgagcatctc tgtaaattta gtgtacacat gtatcccctg gagtggcatt gcctcggcag tgagcactta tggttttata actctcttca cagactcaaa 7980 8040 tgactccaga aagctacact tcctgttgtg agtatatgat atccatttcc ctacatagcc actaacatca ggtttttaca attttattta tttcttgcta ctttaagaaa tttttgtggt 8100 gaaatacata taatagaagt tgactatctg aatcattttt aagtatacat tcagtagtgt 8160 taagtatgtc gccattgttg tacaaccaat ctccagaact ttttcatctt gcaaaacaaa 8220 ctctgtaccc attaaataac attaaacatt ccattccctc cagcctcagc aaccccattc 8280

8340 tactttctqt ttctqtgagt ttgactattc caagcacttc atatcagtta aatcatgaag tatttgtctg tctgtgactg gcttatttct ctgagcacag tgtcctcgag atgcgtctat 8400 gttgtagcat atgtcagaat ttccttcctt tttaaaaagat ccaaataata ttcttatttt 8460 atatcttttt tttatccatt catccattag tggacacttg ggttgctttt ggctattgta 8520 aataatggtg ctatgtacaa atatctatat tattgtattt acaagtataa tgctgtaatg 8580 tacacacatc tttttgagat cctaccttca gttcttttga gtatatagcc agaagtggta 8640 ttactaaatc ttacgatatt tctattttta atttattgag gaaccactgt agtttttcat 8700 8760 agcaactgca ccattttacg ttctcaccaa gagtgcacaa gggttccgag gttcccacat 8820 cctccccaac acttgttatt ttctgctttt tttagattgc agccatcata gtgggtgtga ggtgacattt cattgtggtt ttgatttgca tttccctaat gaggagtgat gctgagcatc 8880 ttttcatatg cttactggtc atttgtatgt tgtctttgga aaaatgtcta ttcaagtcct 8940 9000 ttgactattt taaaaattgg gttattagag ttatcgttgt tgttgacttg taggagtttc 9060 tttctatatt ctggatatta atcccctatc agatatatga tttgcaaata tcttctctta ttccataagg ttactttttc actttgttga ttgtgttctt tgatgtatag aagtttttag 9120 9180 ttttgaaata gtctaattta tctgttttta cttttgtggt ctgtgctttt ggtgtcatat 9240 ccaagaaatc cttgccaaat ccaacgttat aaggtacttt taaggtattt tagttgtctt agtctatatt tctgtactca cctttcttta tccactcatc agttgatggg catgtaggtt 9300 ggttccatat ctttgcaatt ctgaattgtg ctgtgatcag gtgtcttttt agtataatga 9360 9420 tttactctcc tttgggtaga tacccagtag tgggattgct ggatcgaatg gtttttataa ttttctattt taccacagtt tctctctgca tttttcctct ttgaccacta accatgtgaa 9480 9540 attctcatat tgacctttat aatgatcatg aactcttagt atcattggga aggccacatt tgccacttat gattgtaaac cttatcctcc atttttcctg ttattgttgg tgcaaaaagc 9600 9660 acctattata ccaggacttt aaaaatcagt ctgataagtc tttgataagt ctaataataa taactgataa gtccattgaa tttgcttctg attacttttt ctttagtagc taaacatgta 9720 tgtactccta tgattacaat gaacactcct ctccatttaa attaattatt tacattgatg 9780 aaatagcaaa atgttaatga ctaaatactg tcttggtttt ttcgttccag gtcagtcaat 9840 9900 attaacttct tataattttc tttttttct ttatgtgtgt gtgtgtgtgt atttttttt ttttaatttc aatggctttt ggggtacaaa tggcttttgg tcatatagat gaattctaca 9960 gtagtgaagt ctgagatttt actgcaccgg tcacctgagt agtgtacatt gtacccaata 10020 tgtggttttt tataccttgc ccccctctta ccctccccac tttgagtctc tagtgtccat 10080 tatgtcactc tgtatacctt tttgtaccca taagttagct ctcacttata agtgagaaca 10140 cacagtattt ggttttccat tcctgagttg cttcacttag aataatatcc tccagctcca 10200 tccaaaattg ctgcaaaaaa aaaaaaaacc acaaacatta ttttgttctt ttttattgct 10260 aagtcatatt ccatggtgta gagataccac attttattta tccactcact ggttgatggg 10320 ttggttccac atctttgcaa ttgtgacttg tactgccatc aagtgtcttt ctggtataat 10380 gacttctttt cctttgggta gatacccagg agtgggattg ctagatcaaa tggttcttaa 10440 cattttctct ctggatctat ttctggaaat tttaggctcc agtttttgtt gttgttgtta 10500 ataaaatgca atggaatgta atgatcatca cttttcatta tgctttaaaa tctggtaaat 10560 ggaggctaga acactcctgt aaggcaagaa tattctctct gttggaactc aaatacacag 10620 aactgggtaa atctcaatct taatctttga ttcaggacac aacatggctc tcttttactt 10680 gctttcttta attgtttttt aataatgtgg taagcatttc tgaatctcct atccaataca 10740 aaaactagga caatacagac agtaactcct atggttacaa tgaacactcc tctccactta 10800 aattaattat ttacactgat gaaattgaaa tagcaaaatt ttaatgacta aatactgtct 10860 ttgatttttt gttccaggtc tgtcaatatt aacttcttat aattttcttt ttttttcttt 10920 atgtgtgtgt gtgtgtat atatatatat atttaatttc aatggctttt ggggtacaaa 10980 tggcttttgg tcatatatat gagttctaca gtagtgaagt ctgagatttt actacacctt 11040 ccacttatgt ggtcccacac cacccgcctc ccctgccgcc tcctgccacc ccctaggcca aggtaataat catcctgaat cctgggttta tctctcactt gctttctttt catataattt tgcaaaagaa tctgatctaa atgtgttttt cagagtatat atttatattt tagctgttct tagagaaaat ttattatttt gcatgtaatc ttatggaaca ttctcattta ataccatggt aagattcagc ccttgcccag gggatagttc atttagtttg tttactggat agagctcatc 11340 atgtgactat acctcagtta gtttatcagt tctcccatcc atggtgacta ggttgcctct cagcctctca acaacactgt ttctcagtgt ccttgtagaa gtgatatgtg ggtgttttct ccttacacag agttgaaagg tgacgacaac aacgttggca ctaccaatcc cccaccctcc agaggggtaa ccagtgttac cagtttgctg tgtttcctgc tacacctcgc cttattcact 11580 tccatttgta tctgaaaaac gtgttgcatg gtttcttttc tatagaagtg gtaaaatgct 11640 11700 attgtgtcct gtacattatt gattactttt tttcatttaa cagtagggag atgcctggga gtacacagag aactgccctc attgttttca acttctgcac tgtatgtctg tgagtttagc 11760 11820 cattctgctg ttaatggaaa tttacagtat tctaatcttt tgatattaca aacagttctg tgcgatcatc gtcatacaca accccttgtg cacaatgcat gagtgtttct cagggtaggt accaagaagt gaaattcctg ggtcataggg cgtgagtccg acatttttct ccattctgcc 11940

```
ctgttgccct ccagagtggg tgtccagctt tgcataccta agtatgagag tatctgttgt
tcatatcctc tacgacgctc catatatgaa acttaagttt ctgctagttg ccatctttga
tctatcatgt atgcagtgac ctactaagac tgtaattggt acagtagatt cttgtcatct
                                                                   12120
gtgtgtgaat ttagcattca tgggcttaat gctgacaagg cccccagggt ccaagacata 12180
taatcatgta taattttgtc aaggtataat tttttaaatt gcttttgtca tgtgtctgct
ggtgatgccc aacccagtgc tctgcaccca ggtcacactg tggctttgtc ctctgcttat 12300
gcctgcattg cagcaactgt cctgaagaga ccaaaattat gcagatttag gtaagtccat
ggctaatgtt attatattat gtgctattgt aatggatggg gctgtggagt gtatgaattt
ataaatcact ggtcttgtaa ttaaaattca aacactatag aaaaaggcca tgtagaagat
                                                                    12509
aaaagttcct ctataatccc ggaccccta
<210> 13011
<211> 10226
<212> DNA
<213> Homo sapiens
<400> 13011
ggagttagcg acagggaggg atgcgcgcct gggtgtagtt gtgggggagg aagtggctag
                                                                       60
ctcagggctt caggggacag acagggagag atgactgagt tagatgagac tagggggcgg
                                                                      120
gctgggggtg cgagaaggaa gcttggcaag gagactaggt ctagggggac cacagtgggg
                                                                      180
                                                                      240
caggctgcat ggaaaatatc cgcagggtcc cccaggcaga acagccacgc tccaggccag
gctgtcccta ctgcctggtg gagggggaac ttgacctctg ggagggcgcc gctcttgcat
                                                                      300
                                                                      360
agctgagcga gcccgggtgc gctggtctgt gtggaaggag gaaggcaggg agaggtagaa
ggggtggagg agtcaggagg aataggccgc agcagccctg gaaatgatca ggaaggcagg
                                                                      420
cagtgggtgc agggctgcag gagggccggg agggctaatc ttcaacttgt ccatgccagc
                                                                      480
agcccctttt tttccagacc aagggctgtg aacccgcctg gggatgaggc ctggtcttgt
                                                                      540
ggaactgaac ttagctcgac ggggctgacc gctctggccc agggtggtat gtaattttcg
                                                                      600
ctcggcctgg gacggggccc aggccgggcc cagcctggtg gagcgtccag gtctgggtgc
                                                                      660
                                                                      720
gaagccaggc ccctgggcgg aggtgagggg tggtctgagg agtgatgtgg agttaaggcg
ccatcctcac cggtgactgg tgcggcacct agcatgtttg acaggcgggg actgcgaggc
                                                                      780
acgctgctcg ggtgttgggg acaacattga ccaacgcttt attttccagg tggcagtgct
                                                                      840
ccttttggac ttttctctag gtttggcgct aaactcttct tgtgagctca ctccacccct
                                                                      900
tcttcctccc tttaacttat ccattcactt aaaacattag ctggtcatct ggtaagcccg
                                                                      960
ggacagtaag ccgagtggct gttggagtcg gtattgttgg taatggtgga ggaagagagg
                                                                     1020
ccttcccgct gaggctgggg tggggcggat cggtgttgct tgcctgcaga gagggtgggg
                                                                     1080
agtgaatgtg caccccttgg gtgggcctgc agccatccag ctgaaagtta caaaaatgct
                                                                     1140
tcatggaccg tggtttgtta ctatagtgtt cctcatggcg agcagatgga accgggagac
                                                                     1200
atggagtccc tggccagtgt gagtcctagc attgcaggag gggagaccct ggaggagaga
                                                                     1260
gcccgcctca attgatgcct gcagattgaa tttccagagg cttaggagga ggaagttctc
                                                                     1320
caatgttctg tttccaggcc ttgctcagga agccctgtat tcaggaggct accatttaaa
                                                                     1380
gtttgcagat gagcttatgg ggggcaatct taaaaagtcc acagcagatg catccggctc
                                                                     1440
                                                                     1500
gaggggccat cagctttgaa taaatgcttg ttccagagcc catgaatgcc agcaggcacc
                                                                     1560
cctcctttcc tggggtaaag gttttcagat gctgcatctt ctaaattgag cctccggtca
                                                                     1620
tactagtttt gtgcttggaa ccttgcttca agaagatccc taagctgtag aacattttaa
cgttgatgcc acaacgcaga ttgatgcctt gtagatggag cttgcagatg gagccccgtg
                                                                     1680
```

acctctcacc tacccacctg tttgcctgcc ttcttgtgcg tttctcggag aagttcttag

cctgatgaaa taacttgggg cgttgaagag ctgtttaatt ttaaatgcct tagactgggg

atatattaga ggaagcagat tgtcaaatta agggtgtcat tgtgttgtgc taaacgctgg

gagggtacaa gttggtcatt cctaaatctg tgtgtgagaa atggcaggtc tagtttgggc attgtgattg cattgcagat tactaggaga agggaatggt gggtacaccg gtagtgctct

tttgttcttg cttcgttttt ttaaacttga actttacttc gttagatttc ataatacttt

cttggcattc tagtaagagg accctgaggt gggagttgtg ggggacgggg agaaggggac

agcttggcac cggtcccgtg ggcgttgcag tgtgggggat gggggtatgc agcttggcac

tggtactggg agggatgagg gtgaagaagg ggagagggtt ggttagagat acagtgtggg

tggtgggggt ggtaggaaat gcaggttgaa gggaattctc tggggctttg gggaatttag tgcgtgggtg agccaagaaa atactaatta ataatagtaa gttgttagtg ttggttaagt

tgttgcttgg aagtgagaag ttgcttagaa actttccaaa gtgcttagca actttaaatg

agaagtgtta actgaaaaca ggtgacacag agtcaccagt tttccgagaa ccaaagggag

gggtgtgtga tgccatctca caggcagggg aaatgtcttt accagcttcc tcctggtggc

1740

1800

1860 1920

1980

2040 2100

2160

2220

2280

2340 2400

2460

2520

2580

2640 caagacagcc tgtttcagag ggttgttttg tttggggtgt gggtgttatc aagtgaatta gtcacttgaa agatgggcgt cagacttgca tacgcagcag atcagcatcc ttcgctgccc 2700 2760 cttagcaact taggtggttg atttgaaact gtgaaggtgt gatttttca ggagctggaa gtcttagaaa agccttgtaa atgcctatat tgtgggcttt taacgtattt aagggaccac 2820 ttaagacgag attagatggg ctcttctgga tttgttcctc atttgtcaca ggtgtcttgt 2880 2940 gattgaaaat catgagcgaa gtgaaattgc attgaatttc aagggaattt agtatgtaaa tcgtgcctta gaaacacatc tgttgtcttt tctgtgtttg gtcgatatta ataatggcaa 3000 aatttttgcc tatctagtat cttcaaattg tagtctttgt aacaaccaaa taaccttttg 3060 tggtcactgt aaaattaata tttggtagac agaatccatg tacctttgct aaggttagaa 3120 tgaataattt attgtatttt taatttgaat gtttgtgctt tttaaatgag ccaagactag 3180 aggggaaact atcacctaaa atcagtttgg aaaacaagac ctaaaaaggg aaggggatgg 3240 ggattgtggg gagagagtgg gcgaggtgcc tttactacat gtgtgatctg aaaaccctgc 3300 3360 ttggttctga gctgcgtcta ttgaattggt aaagtaatac caatggcttt ttatcatttc 3420 cttcttccct ttaagtttca cttgaaattt taaaaatcat ggttattttt atcgttggga 3480 tctttctgtc ttctgggttc catttttaa atgtttaaaa atatgttgac atggtagttc agttcttaac caatgacttg gggatgatgc aaacaattac tgtcgttggg atttagagtg 3540 tattagtcac gcatgtatgg ggaagtagtc tcgggtatgc tgttgtgaaa ttgaaactgt 3600 aaaagtagat ggttgaaagt actggtatgt tgctctgtat ggtaagaact aattctgtta 3660 3720 cgtcatgtac ataattacta atcacttttc ttccccttta cagcacaaat aaagtttgag 3780 ttctaaactc attagaattg ttgtattgct atgttacatt tctcgacccc tatcacattg ccttcataac gactttggat gtatcttcat attgtagatt taggtctaga tttgctagct 3840 ccaagtaatt aaggccatgt aggagagcat ggtaaccaca gatagaactg gtattatccc 3900 3960 aagtggtctg cagactgctg agtggggatg ggatctgctc tctgttgaga gttggtaatc 4020 attggtttga aatgtgatga aaccactcaa gccaatgaag gtgggtgtgt aggtggggag 4080 tactttgcca taatatttta aaacattacc tggttagagt tctaagtggt acttattttt gtttggttag gggaaagcct gaataaaaac agaaatggac acataatatg catattccat 4140 4200 agtctttggg aggctggaat gtgcctggga tttgggtcta agtgtatgcg taattcttac ctcactaaag aatttgcctt gtttttttcc ttttggtgag tgactaaaac gtctgggctt 4260 4320 ccctgtgtgc gtgctacagt aagcaagcag aggctgtgca aaggtgtgag caggatcacg 4380 tggaatctgg aggatacatc ttggcttgca aactgcctct gtctcctggg tgggactgtt 4440 ctgtccttgc actgctgttc tgtgttacct cttggggtgt aaggttttgc ttacaggaga caaactttgg gcgtagaatg gaagccactg ccagcctctg tgctgagaag gaaggtgctt 4500 gtttcaaagg gagcagcaag ggaggcttgt tctactcacc tgggcctgtt tgcctgagaa 4560 ggggagataa gggctgaact gggactagcc agggggacca acacaaatgg tgggggatca 4620 4680 tgacctgaag gattetttee tteccatgag etgeaggget ggttgeegte ettgeaactg tgtcttattt gcctgtgccg ttatatcttg gtgacccctc cacgtgtaca ctactgacaa 4740 acgggtggag tgctggggag aagtcactgt gccgcccacc tagtaaacct tctgtctgtg 4800 ctcatggcat ctccaagatg gggcactgct gtgtgcagaa tccagggtcc tctttctgct 4860 tgcaactcct ttccctggat gccccagaaa caatccaggc ctcctttcct atcttacccc 4920 tttgctttgc tttttacccc agcacctcta taaccgcctt ctcttcttt cagaactcct 4980 5040 tgtttctcat cctgtttttt atgattacaa aactcttgct tccaccctgg aagataactg 5100 ctatagatgc ctgtatgtaa atggtgctgt ctccagcaac tggcatgctg aagaagaatt gattcacggg gtataaatgt tggggattgg aagtggggat gaaatggcac ttgttgatac 5160 aggagcagag aggtgaggcc gactgctgaa gacagctcgc caccctcctt gcctccactc 5220 caatccaggg gctggggcca cattctttgc cttcatttat cctcagatca ggtgagatcg 5280 acaggaggtg ttgatggcag tgccagcaat tattgctaat ccgtttgcat ccttatgcat 5340 5400 agtgggcatg gctgatcttg tgcaaattaa aagttatggg gcataagaat agcaaaagtt 5460 gaacttettt taaaaaggaa agtaeeetga gageeagtat tggttgagge tetteagtat 5520 5580 gcccaggttg gcagcactga gaaccgcagg aacggcctgt tgttacaaaa aggagattga ctcagctgcc cttggtgcat ctgactgact atgactgctg agagattcca aggaccctta 5640 5700 atgccagggc taacctctcc atgtgcagtg agacctctgg aggaagtgtc atcctctggc 5760 tttgtgtggt actcattatg gtgcagtgcg ggcatgaaat gaagacaccc aaataggctt 5820 acagatacga tatgttttaa atgttcgtat ttaacaaaaa catactgaca ctgtttggaa atggcaacag gaagatagca aaatgaatac taacattacg aaaagatgaa caggtacatg 5880 5940 ttccaaggca ggtggctgtg aacttcctct gagtgaaggc atcccctcca gcacctttca 6000 gcctgctagt taggacgacc cgccgccacc ctccaggacc tccagccctg cactgccttt cctctctttt aaataattct tcattgagtt ctaatatgta aaaaaaaaa gtttactgta 6060 aagtttgcaa ataaggaaat tttttttaaa agtcctcagt aatcttacca gtaacaattg 6120 ttatgggcac atttgctttt ggaagatttc ttttgtatgc atgggataag tacattttta 6180 aacaaaaatg ggattatgcc ataaattcta ttttgtgact ttaatatata gtgaacacct 6240 tttttaatga tgacaggatg ttcccttgca tggctgtatc aatttaaaca atcttgtttc 6300 6360 aatgggcata cagggtattt tctagttttt ttttcctctt agaaaataat acttgcgatg 6420 actttccttg tagctcagac tttttcacgt ctgttgttat ctctttggga atgctgaata 6480 catacatttc gagaaggaaa tgactgttaa actcttaaga cttcaggttc atattgctaa 6540 actgcccagc agggagggat tttttcaatt agtgttctca ctggtgaggc aaacctgatg 6600 ccttcccctc ttcctcagaa ccggctttat cacattgaaa acctttgctc ctccgacgga 6660 tcgagtctgc tttccctgtg gatgtgagca ttgctttgtc tgctggtgac tgaacatctc 6720 gtgtgtatga ttttctaatt cctagtcatt tttctattga ttgttttgca aaagccattt 6780 acatcttaag gatattgata atcttttgtt atatttgatg caaatatttt tttccagttt 6840 ataggttgcc ttttaatttt gtgtttcagg tagataaaag ttaaacgatt ttcttaggtt 6900 6960 agtttatcac tgtggtttct gaacttgtta tgtgtagatc ttttccaccc caagagtaca 7020 taaatattaa tooatacttt ottatggaac ttgtatggtt togtttttta catttaaacc 7080 ttcttccccg tggtgtgtt tgtggaatct gtgtttgtgt gaggaggggc atggtgctct cagaacccac ctcctgtggc cagagagccc tgtcctgtga gggtggttat cacagtggca 7140 gggttcaatt cagaagacct tgagggcagg ctgatgtttc ctgaatgggc ccctggttgt 7200 7260 tgcttgtccc tgactctcca tttccccatc tgagtggatt tggacctaat agggcactgg agctggttcg aatcctgact ggactacttg gcaactttat gtctgggagc aagttactta 7320 7380 acctccccaa gcctgtgtct gtgaaatgcg ggtaaatgaa tgtagatgtt tggcagcagc tactccttgt tgagctctca cagtgaactc tcctgcctct gccctccttc cccgcctccc 7440 7500 ctggtgccta gcgtcaggtc tagccacttc ctcctgggcc cctctccctt ttctgtggct ggctgcctgc ccgcctggcg ctggaccttt catgtaacgg gaatcagcat gtatattctg 7560 7620 gtctggtctg tttctacact taattttgtt tccagtagta tttccctgta ccggcagagt 7680 tcacaaacac atttgaagag gctttttctc aggattctta accttcccaa aggaagtccc 7740 atggatgggt ttctagaagt ctataaatgc tctgaaattg tattttctg tggaaagcat 7800 aactttcatc tgcttgttcg tgctcaaaaa agatcatgaa tgaatgattg catgatttta 7860 tgccattgtg cttatactaa aggatatgta gcccatctct tgagctgtta aactgttttg 7920 actactttaa atcgtgcagc tgtgagcatc tctgtaaatt tagtgtacac atgtatcccc 7980 tggagtggca ttgcctcggc agtgagcact tatggtttta taactctctt cacagactca 8040 aatgactcca gaaagctaca cttcctgttg tgagtatatg atatccattt ccctacatag 8100 ccactaacat caggttttta caattttatt tatttcttgc tactttaaga aatttttgtg gtgaaataca tataatagaa gttgactatc tgaatcattt ttaagtatac attcagtagt 8160 gttaagtatg tcgccattgt tgtacaacca atctccagaa ctttttcatc ttgcaaaaca 8220 aactctgtac ccattaaata acattaaaca ttccattccc tccagcctca gcaaccccat 8280 tctactttct gtttctgtga gtttgactat tccaagcact tcatatcagt taaatcatga 8340 agtatttgtc tgtctgtgac tggcttattt ctctgagcac agtgtcctcg agatgcgtct 8400 8460 atgttgtagc atatgtcaga atttccttcc tttttaaaaag atccaaataa tattcttatt 8520 ttatatcttt tttttatcca ttcatccatt agtggacact tgggttgctt ttggctattg taaataatgg tgctatgtac aaatatctat attattgtat ttacaagtat aatgctgtaa 8580 tgtacacaca tctttttgag atcctacctt cagttctttt gagtatatag ccagaagtgg 8640 8700 tattactaaa tcttacgata tttctatttt taatttattg aggaaccact gtagtttttc 8760 atagcaactg caccatttta cgttctcacc aagagtgcac aagggttccg aggttcccac 8820 atcctccca acacttgtta ttttctgctt tttttagatt gcagccatca tagtgggtgt 8880 gaggtgacat ttcattgtgg ttttgatttg catttcccta atgaggagtg atgctgagca tcttttcata tgcttactgg tcatttgtat gttgtctttg gaaaaatgtc tattcaagtc 8940 ctttgactat tttaaaaatt gggttattag agttatcgtt gttgttgact tgtaggagtt 9000 9060 tctttctata ttctggatat taatccccta tcagatatat gatttgcaaa tatcttctct 9120 tattccataa ggttactttt tcactttgtt gattgtgttc tttgatgtat agaagttttt agttttgaaa tagtctaatt tatctgtttt tacttttgtg gtctgtgctt ttggtgtcat 9180 atccaagaaa tccttgccaa atccaacgtt ataaggtact tttaaggtat tttagttgtc 9240 ttagtctata tttctgtact cacctttctt tatccactca tcagttgatg ggcatgtagg 9300 9360 ttggttccat atctttgcaa ttctgaattg tgctgtgatc aggtgtcttt ttagtataat gatttactct cctttgggta gatacccagt agtgggattg ctggatcgaa tggtttttat 9420 aattttctat tttaccacag tttctctctg catttttcct ctttgaccac taaccatgtg 9480 aaattctcat attgaccttt ataatgatca tgaactctta gtatcattgg gaaggccaca 9540 tttgccactt atgattgtaa accttatcct ccatttttcc tgttattgtt ggtgcaaaaa 9600 gcacctatta taccaggact ttaaaaaatca gtctgataag tctttgataa gtctaataat 9660 aataactgat aagtccattg aatttgcttc tgattacttt ttctttagta gctaaacatg 9720 tatgtactcc tatgattaca atgaacactc ctctccattt aaattaatta tttacattga 9780 tgaaatagca aaatgttaat gactaaatac tgtcttggtt ttttcgttcc aggtcagtca 9840 atattaactt cttataattt tcttttttt ctttatgtgt gtgtgtgtgt gtatttttt 9900

```
ttttttaatt tcaatggctt tgggggtaca aatggctttt ggtcatatag atgaattcta
cagtagtgaa gtctgagatt ttactgcacc ggtcacctga gtagtgtaca ttgtacccaa
                                                                  10020
                                                                  10080
tatgtggttt tttatacctt gccccctct taccctcccc actttgagtc tctagtgtcc
attatgtcac tctgtatacc ttttggtacc catcagttag ctctcactta taagtgagaa
                                                                  10140
                                                                  10200
ccaccactgt atttggtttt ccattcctga gtggcttcac ttagaataat atcctccagc
                                                                   10226
tccatccaaa attgctgcaa caaaaa
<210> 13012
<211> 701
<212> DNA
<213> Homo sapiens
<400> 13012
                                                                      60
gcacagggag gggtgcatgt caggcccagc cctgcctgct gataccacct cacagacgca
ggcgaaatgt cttcaccagc ttcttctcgg ttgccaaggg ggcctgcttt caaggggttg
                                                                     120
                                                                     180
ttttgtatgg ggtgtgggtg ttaaccaggg agaggttcct ggcaggagtt cctgtcagat
gccattttcc attctggtta cttgaaccgg ggtccttttt catcctctac ctcaggggcc
                                                                     240
                                                                     300
agagetteet cateacettg caececetag caagggaggt geeegetaca eggtecaaag
                                                                     360
tcctctccag acattcgggc cctgcccgcc ttgctggagg gctcaggagt tcaccaggtt
                                                                     420
tgcttccaga agagccaggc tggggatgcc tgcttgcaaa tgcagcaaat aaaaaaataaa
480
                                                                     540
ctgtccctcg gctatgtcag atactgcttt ccgcacaata tcttggtttt acattatttt
                                                                     600
gcaacggcct cttcccactt aatccatcct gaacacactt cttgaatgtt ctaccccggc
                                                                     660
agggatgcgc attctcagga aacacgtccc ctcgccaggc ccctgggaag agtcaaaacc
                                                                     701
acgatgcctg cccctgaagc gcccgcgcgg ctccacgggg c
<210> 13013
<211> 1608
<212> DNA
<213> Homo sapiens
<400> 13013
ctgtggatgt actaaaatgt atcctattat tctctgccct aaaatggaat catacaaggt
                                                                      60
                                                                     120
gtactgttat ttttatggct ctataacatg tcatattgta cgtgttggta tggtcatttt
aaccattttt ctagtgatgg ctttgaggtt atttgcagtt tcctagccat ctcaaagtgt
                                                                     180
                                                                     240
gctgcgggga tctcttttgc atccctctgg gtgcagagct gaggcaccca gaggcagtgt
                                                                     300
ccagaggagg cagcatctgt aggtgtcttc acctgctctg gctcttggca catctggttg
                                                                     360
gtgacactgt tttgtgagat gggttgaaag cacgtgctgc caaaatagaa taatgttggt
                                                                     420
cctctcctca tgtgccgtgg aactggggta aaactgcgta gtggctgcag ctgcctgtcc
                                                                     480
ataccggaat cgagtataac acggtgcctg gcttagcaca aaacagtagt gggtcctgca
ggccccagag tctaattcct ggtattcttt cccctacaca gattaaataa accaaaaaca
                                                                     540
                                                                     600
aactattcta ggaaagcgtc tgtgacattt gtaaaaagtg gtatttaatg atcttttatt
cacttgtctg tttagtttgt tgaaatctta agtggcatcc tggtctggga aggagtgctg
                                                                     660
tctgcgcctg ccctccgctg ggcacagcgt ggctgcttca ggggctaagc acacactttc
                                                                     720
tgtcttctaa agggccgcca catgccagga gctcaggtgt gagcccggct ctggctctta
                                                                     780
cctcataggg tcactcatag gggcacaggg agcagaacat tgtacacagc gaggcaccac
                                                                     840
ccggcttggc atctgcctcg gtggacttac tacctctaga aggaaatacc tgagttcctc
                                                                     900
tggcctcagc tcctagagtg actggtgtgc tgtccctgtt actcttctgt caaggtgaca
                                                                     960
                                                                    1020
actgtgtgac ccatcatctg tgtgtcaaag caaggccctg cctgggcctc tgctcctgtg
ctgaccccaa aggcaaatgc tttgctagtt tccttccagt taatttcacc tatgaataga
                                                                    1080
tgtgtgaaaa ctgttcaaag ccatacctgc acatgtttga acttcaaacc ctgtgggtga
                                                                    1140
ttcagtggca tctttctcta acccccagcc tcccttccca cagaggccac cgtcatggcc
                                                                    1200
agttgctgca gtttctttcc agagaacctg tgtatgtgta aagctgtaca ggcgtgggta
                                                                    1260
caccacacag cctgtcttgc actgtggact gttgagttac tagtacatct aggtaagcac
                                                                    1320
cgcatatctg tattcatgtc tgccttggtc ttttcaacat ctgtgtggta gccgtgtttg
                                                                    1380
aattacccat tccctttttg gggaaccatt aagttgtttc agcaattttt actgtagata
                                                                    1440
                                                                    1500
aggctatacc gcatatctgt gtacatgggt ttttatgtac atgggcaagt atatctgtga
gagaaaagtt tcctcaggag gaattctggg cacagcatgt gtaaatttct aaatatgatg
                                                                    1560
                                                                    1608
gacaccccca gcttccacct caaggaggtt ggtcccattg acatttcc
```

```
<210> 13014
<211> 701
<212> DNA
<213> Homo sapiens
<400> 13014
gcacagggag gggtgcatgt caggcccagc cctgcctgct gataccacct cacagacgca
                                                                     60
ggcgaaatgt cttcaccagc ttcttctcgg ttgccaaggg ggcctgcttt caaggggttg
                                                                     120
ttttgtatgg ggtgtgggtg ttaaccaggg agaggttcct ggcaggagtt cctgtcagat
                                                                     180
                                                                     240
gccattttcc attctggtta cttgaaccgg ggtccttttt catcctctac ctcaggggcc
                                                                     300
agagetteet cateaceetg cacecetag caagggaggt gecegetaca eggtecaaag
                                                                     360
tcctctccag acattcgggc cctgcccgcc ttgctggagg gctcaggagt tcaccaggtt
tgcttccaga agagccaggc tggggatgcc tgcttgcaaa tgcagcaaat aaaaaataaa
                                                                     420
                                                                     480
ctgtccctcg gctatgtcag atactgcttt ccgcacaata tcttggtttt acattatttt
                                                                     540
                                                                     600
gcaacggcct cttcccactt aatccatcct gaacacactt cttgaatgtt ctaccccggc
                                                                     660
agggatgcgc attctcagga aacacgtccc ctcgccaggc ccctgggaag agtcaaaacc
                                                                     701
acgatgcctg cccctgaagc gcccgcgcgg ctccacgggg c
<210> 13015
<211> 14717
<212> DNA
<213> Homo sapiens
<400> 13015
cgtggctgag aagaaggagg cctgagagcg acatgtcccc ggcggctcag gcggagcggc
                                                                      60
ccgtggcgct gtttttctga gtccggggtg gcctggcagc cggccgagga cgagggtcgg
                                                                     120
cgggggctgc ccccgtggtg gtggccgcca tgctgggagc ctgggcggtt gagggaaccg
                                                                     180
ctgtggcgct cctgcgactg ctgctgctgc tgctgccgcc ggcgatccgg ggacccgggc
                                                                     240
tcggcgtggc cggcgtggcc ggcgcggcgg gggccgggct gcccgagagc gtcatttggg
                                                                     300
cggtcaacgc gggtggagag gcgcatgtgg acgtgcacgg gatccacttc cgcaaggacc
                                                                     360
ctttggaagg ccgggtgggc cgaggtgaga gtccccctgc cgagccgcgg gatccagggc
                                                                     420
ctgctgtgct gggcgcagcc ggccgggggc tgcgggcccc gagccccttt cgaccctggg
                                                                     480
gccgcgtctc tggagcgaag tttctctctg cagcttcttc gggggcccgc tctgagctca
                                                                     540
gggcctggca ctggctccaa ggtacctaga gtcatacagg cagagagttg gccagaagtt
                                                                     600
agttatattt ggatttetea teetgeattt teteaacece teacteecat eeaagetggg
                                                                     660
                                                                     720
agagaaatga cgaaggcggc cttttgctac ctccaggcct cgcgggttgt aggtcatggg
                                                                     780
tgcccctgct tctcctgtcg agacagttct tgggagattc tcgtcgaccc aggaatcggc
                                                                     840
cgctttcctt gccccttctg caggagcggg gcttgattct tagccagaat aggaaggaat
cttcgaagag aatgggccag gaaagtttga ttgtagcctc ctcccccgcc ctcttttcga
                                                                     900
gcgaagaata tgtgtgctta aaagtagaat cggcaggccg cccccagagg gtggttctat
                                                                     960
cgaagccatc ctgcacgtga ggctggtggc tgtgtgtgaa ctgggtcaac cagtgtaaga
                                                                    1020
atccgaatgg tctatcagag aatgcttaca acctccccta ggtgatcctg agagttctaa
                                                                    1080
                                                                    1140
ttccagctta gggggaaaat gattgtgact taacttgctg ggcaacagtg gtttttaacg
gagctgctcc cttcccaaag ttagtgtgtg tcagaattgc cagggcagct ggttaaaaat
                                                                    1200
gcagattcct agtccccact cgaaattgat tatagtagat tgagcttttt tgctgggatc
                                                                    1260
                                                                    1320
caggtttctg caccaggggc ttgtgatgta ggttgccccg agaccaccgt tttggaagat
cagctttata atctttgttt cttctgttgg agggattgga aaacaggttt cagaaggaag
                                                                    1380
                                                                    1440
ttctttgcta ggagattgat actgtatgct gggttcagag gctaccaaat tggcagtatg
ccacctccag acaaccagga gacagactca ctcttcactt tctctcattc tttttctgcg
                                                                    1500
                                                                    1560
atgcccagat ttggctcttg cttttactaa aatagttagt tcttcccaag tcgattgcag
                                                                    1620
tgtcctggag tttgttatat taaggagttt attgcctttc acacatgtga gggtcttggg
acacagggct gttttgtgaa gttctatgtt tgtcttggag tttgttgagc cctggcatgt
                                                                    1680
agatcacagt agcctgggtt cagctgactc agggctccag tctttagcag cggtaacagc
                                                                    1740
                                                                    1800
agccaaagcc agactttata gcaggaggtc attactatct ctatcctgga cccttcctct
                                                                    1860
 ttcttcacga gtgtgggcag ggaggaaaga gcccttgagg aaactagaca gtttgtggac
 tttgcctctt gagatagcgg tggtgagggt gctgagcgga tggtttcttt cacttagcag
                                                                    1920
 ataccaggee ttacattggt tacategtee tatteagtet gttgtgeaga gaataaagee
                                                                    1980
```

2040 gagtaagacc acacaggttt agttcccaga tactgccctt attcagaaat tctggtttta atttgctgat gcaggtggtg tgtgtgtgtg tgtgtgtgt tgtgtgtttc tttggcttgg 2100 tcagcagtca gccaagatct gtgtccttgg gttattggct catggttgca gttccttgga 2160 aggagtttat tgtagcaggt aaaattacat gagacctacc aaagcttgtg tgtactggag 2220 tcctatttcg gacactggcc cttggggcat tgtataaatg aaggttccct gctaaggttc 2280 ccctctccat tctaccaatc tgggtaagaa ttggagcagt attaaggcat ggatggggag 2340 tgggaggtgg cgcttgtcag ctgcagtttg gaccagcttg ttgcaacatt gcgcttacca 2400 ggttcctgag aaaggcattt tgctggcttt aggtcgggct gagatgcgca taagcttgca 2460 ctctcaggag gcagctctct actaaggagt cagtcctacc aagggaagtc cagctgttca 2520 cactgccttt cttctgggcc tgtttggata agggtgtgcc aggtatttga agacccttgc 2580 2640 ctcgtgcagc tatttacact gattgcagta ggaactgtat gccttatttc ttttcccgcc 2700 tgcctgtgat attgtttcca gcatgctgag aaaagttgat tttatgttga atgaattcag 2760 gtatttgtta ccaagttagt ccagataagg gtttggcctt cttttgaact tgctgtttct 2820 gtgtagtttc tttgtagttc aacattcttg taattgtgag tggcccaggg cacctagtgg 2880 tttatgcttt caaaagcagt tcagaatatt tattgaattt catttctgcc ttgaggatag ctagtgctta cagcctggga aaggcttttt cagcctgtgt gcttccacag atgggagcac 2940 3000 cactacagaa agtggtttag aagcgttcac cttgggggttt tggtatgagg cacattccag 3060 actatgttgc ccaggctggt cttgaacttc tgtcctcaag tgatcttccc accttggcct 3120 cccaaactgc tgggattaca ggcatgaacc atcacgcctg accatgttcc agatttgtaa 3180 3240 cttggtcatt ttgagttcct cttcactctg actaggaaaa gacctggtta tttgacctga gggcacagaa ttttgcttga gtttagggaa ggctatttcc tcttcagaga aagatacctg 3300 ctaaagtcgc aggtcctcga gaaacttgct ttacgtctct gagccttgtt ttccttttca 3360 aaaaatctct catgctttag aaatttctga taagactgta aactctcctg tccagagtag 3420 cttgaagtgt ctctgtcact tttttttcc ttgatgacct tttacatgga attaaaaata 3480 gggcagaaca tagctccaga ggggaaaaaa gttggttggg gaccagagcc tatcaggttg 3540 ctaatgctgt aaccttaagg aatacccttt cctgggctgc cttcctttca cctggggaag 3600 gatttggctt tggggaggta agagcttgaa acatgggatg agagaggagt cactgctacc 3660 tctgatttgc tcaaagccat ggcagttgtt tagaattctc tacctctact gtcacctaac 3720 aggcaggctt catctgcagg ccttccaaat agtggaagtt cacaggtaga aaatttaggt 3780 3840 ccctgaatcc gtgggttcgc tgtctcagcc cattcagaac aattctttag gtactggcct cactggagaa agaagtgatc cagaagaaca gtctagtgac caggagatct gagggtaggg 3900 tgggagtgac gctagagcac caaggggggc tttacagctg tgttctcatg gaggacaggc 3960 ttctgctcat tctggctttc ccactcttgt ggttcccagt tgcagttttc cagttagttt 4020 tattacttcc ttttcttttg atccattccc taaactgcct tgagtggagg catttgttta 4080 gtgcttatcg tgtgcatatc cttgcctggc tagcataccc atgtttctgt gtctctctcc 4140 gtgtgaggca ttgtattgag ctatttatac agattgtttt atccttacca caatgctgtg 4200 ggataggtgg tgtccccatt ttataggtga gaaaacagac ctagagaaaa caacttgttc 4260 agtgacactt cgtgtatgtc ttttcctgaa ccctgtgctg aattttccaa ggagcctagt 4320 tactacattg tctaaaacta agaaagagca gacataatgt aggcccttcg gcccccttcc 4380 4440 tttttggtta actgagttat gccaatttca gcagtatgct gactgtacac ttcattgtat 4500 tttagagaaa tctgtttcgc tgtgaatgca taaaggctaa ggagggagga acaacccttg tttgctgctg catctcttgg gacttgggca aattcaactt tgcacgtggc agatctcttg 4560 ggaaagccac ttgggtttta aagggaaata ttttaaaggt aattccaagg ttgttaagta 4620 atttttgttc acatggttga gttttcttca ctgtgggact gagactgccg cagattacgt 4680 4740 tactgtcagt tcctcacttt ttccacttgg caagaaaaaa aaaaagattc ggcctggtgt ggtggctcac gcctataatc ctagcacttt gggaggccga tgcgggcaga tcacctgagg 4800 ttggagttgg agaccagctt ggctaacata gtgaaagccc gtttctacta aaaatacaaa 4860 aaattagccg ggcgtggtga tgcgtgcctg taatcccagc tacttgggag gctgaggcag 4920 gagaatcgct tgaccctggg aggtggaggt tgcagtgagc tgagattgcg ccattgcact 4980 ccagcttggg caacaagagc gaaactccgt ctccaaaaaa caaaaacaaa aacaaaaaa 5040 caattcccca cccatgcaca aaattttctg tgtatccgta aatcaaatgt agtcgatgtt 5100 ccagatttgt aatgatcaca gtcctcatgg aagaaggaaa ttcttagagc tcagttggaa 5160 5220 gagaaacagc agtctttcag tcttcatagg tttgtatccc ggggcaatgg ttttttgagg 5280 ctggaaagga gggggagcat gttagcagta catcctttgt atgcattgct cagctactct ttgatttctt gaggagaaat agaaagaaaa aagtctgaag acaaaagtgc aatgagtttc 5340 5400 ctcttccatt gtctcatcag tccctctgat ctcgtggcta atgtcactta caggaactgt taacagttat gtttattttt ttgaggtctt gacctcaacc actgggtctt tttgttaatc 5460 5520 ttttaccttt tgccatgtct tctcccttgt tgatgattca gaagataaag ctctggggat gacagcccct ggccttctcc caaaggatct agttgccaga tgtcttcagg gtcaccacgt 5580 gagattggaa ggcagtcttg aaatcttaat ttcatgcggg aggagagact acatgacggc 5640

tacatctgta gttggaacag tatatttatg gagcactgga aagccttact gtgtttatag 5700 5760 gataaaggag tcaggctact ctctggagga agcagaacta tttacctctg agactgaaat 5820 gtgatatctt atatttgcac aaaaaagatt cggcctggcg cggtggctca cgcctgtaat 5880 cctagcactt tgggaggccg atgcgggtgg atcacctgcg gtcaggagtt tagtgtgttg 5940 tgcgagagga agaaaaaaac atatatacaa ctgtcttaca ccaaggttgg gagagggcca 6000 gggccaagag aggttttctg ctcttctgat actgacccga ggtaagtaac tttttacttt tatcctctct cattccttgt cagtttgtga aatgtgaaag gtgattcccc taggacttgg 6060 6120 acatcttagg cagattgcct tgccctgcag gatgctccag ccttgtggac agagtggcat 6180 ggcttcactg ctttgcaggc acctccttca ttgtcattta ttcattcagc aaactgtatg agtggcgact atgtgccagg tcccgtgcta ggcactggag gtgcagtggt gactttttt 6240 ttctgctgtt ggtttatctg agtgaatgtt caagtaagta ggtgaggtgg agttttgtga 6300 gtctgtggga aggaaggaaa ttagcatcac acctttcttt tatgagcctg tttttgttta 6360 6420 cagctttgga actttttgaa tgaaaattat aaaaaaaaca cacaacaact aaagctggaa 6480 ttttattcgt aaggacaatg aagaatgact ttccaaagca gatatcctgt ttgttttaga ctctgggctt ttctgaatga gagaaaacat tctttgaact tcatcttgta tggagttcct 6540 ggccatcccc cttgttttag gaggtttctc tgaagccctc cctcttgggg aaccaggcag 6600 ctgcaacaca gcactttctt ctggtaatga gttagacttg ttctccgtac agtcaggggg 6660 aaaaagtcat tttaatgtgc ttttagaaag ttccgctctg aggtttacag gggctgttgg 6720 6780 cctgattagt gtttagtttc tttcatttta ctcttccata gtaatggctg tatgattcct gcctttgttg gagctctgtt tggagccagg tgcagagtgg gtggcccctt ttatggagag 6840 ggttattagc attgccctgg aaatgcctct ggctgttctg gggtctttgc ttttcttttg 6900 6960 tgtcttgcct ctgatgtgct ttctctttgt cttttgtcct cagcctcaga ctatggcatg 7020 aaactgccaa teetgegtte caaceetgag gaccagatee tgtatcaaae tgageggtae 7080 aatgaggaga cctttggcta cgaagtgccc atcaaagagg agggggacta cgtgctggtc 7140 ttgaaatttg cagaggtcta ctttgcacag tcccagcaaa aggtgaggcc tagtcaggct 7200 gctgcttgac cagtaggaca ttgctgctct tggacaatcc acgattatgg ggctagagag tgtgagagtc tctccagaaa ggcagaacag atgagctcta gagaagcatg ttccatagtg 7260 7320 cacaaggctg cacttgcctt gggggtgagt gacagaaagc aatgccagaa tccttgtttt 7380 gccaactaac tgatcctgtt aaggccctcc tggctacttc cctccatggt ttgccgcacc ttcttgtttt tagccttatt tttcctctgt cccttcctgt gaatttcctt cttcctatgc 7440 taagcttttt gtttgtattc tttgttcctt aaagccaata taagaactcc tgggcagtga 7500 aggaacacgg ctttgatttg acccgggtta aggatgctaa ccaccctgga tatccagacc 7560 catcatttct taaattattt ttgaacttca agcccaaaca cgtgcatgat gtccaactgc 7620 ttgaaaggat gtaaagctga tggttttgac attgttttct tttcttatcc tggaaggtat 7680 ttgatgtacg attgaatggc cacgtcgtgg tgaaggactt ggatatcttt gatcgtgttg 7740 7800 ggcatagcac agctcacgat gaaattatac ctatgagcat cagaaagggg aagctgagtg tccaggggga ggtgtccacc ttcacaggga aactctacat tgagtttgtc aaggtaattc 7860 ccctattctg cccattgctg aagagagtgg gtacagggga agttgtttgc tgctgtgtgg 7920 7980 ggttgaccac tgtttccctt ttcctagggg tactatgaca atcccaaggt ctgtgcactc 8040 tacatcatgg ctgggacagt ggatggtagg ttgtgttctg acctgctttt ttgacttgag 8100 tggagggata tggttgagga agcccttggg aggtaattga gctgatcact attttggaaa 8160 cacttaaagc taaattgtag gggattcaga atcagttgga taaggatgaa gcataacatg gtactagcca caagctttgg agtcaggtct atgtatatct tgttgctgcc atttaatcag 8220 atgtttgtct tggatggatg cttttaattt ccctataaat tgggattaat aatggtacct 8280 attggtgtac cctgaccttt gtagtcattt gggatcacct aaaacttgtc cttattctgt 8340 ttgtttgaca tctctttcct aggggaaaaa aaggtaaaag gaggagtcct gtaggctttt 8400 ggtatgctct gaaagattcc agcattgctg gactgcactg ggacaaaact tcacttattt 8460 atgtctcctt atccttggga tcaagtctta gagtatattt ctttctcagg gtttagattc 8520 tcctggctgc cagcatctca ggctgatttt tgcagagaaa gctgcgtctt tgtgacattt 8580 ctccccatt ccacctctgt acctttcccc aactcaatct tgaatgcact gaggatttca 8640 8700 tcctgttgtc ttgatgtccc ccaaatgctg atattatgac atctaggagg atgaatgtct 8760 taccaccaaa cagacctgtg ttcaagtccc tgaggaggag gcaggacaga gggatagtgt 8820 gtgctgggaa cccagaactc tctgggtcaa cgtttcttca gttgttgtgt gaatcaaaag ggaatgtggg cttgtgggag gaggagggat ttgaaaaggc taaagtttag gcattggatc 8880 attgtccctg tccagtctgg ttatcttggg gctctgtaaa agtagaacag gaaggtaaga 8940 tagtgaacct ccctatgagc acggcttttt ctactttcta gttaaatcta aagcttttgc 9000 9060 agcactctgc tgttctgtag accagaggct atttctgcta cttctggtct tttctctgga 9120 cccgggttca atcacagcaa tctctttatt gtggcttatt tgctgctttt aagggtctct cttacttaaa tgctgtgggt cttaacagtg ttttcttcct tgtgttagat gtaccaaagc 9180 ttcagcctca tccgggattg gagaagaaag aagaggaaga agaagaagaa gaatatgatg 9240 aagggtctaa tctcaaaaaa cagaccaata agaaccgggt gcagtcaggc ccccgcacac 9300 ccaaccccta tgcctcggac aacagcagcc tcatgtttcc catcctggtg gccttcggag 9360 tcttcattcc aaccctcttc tgcctctgcc ggttgtgaga acaaatgact atcctgaaca 9420 gggtggaggg gtgtgggaaa gaaaccagcc atattggttt tggtttctgt atttttcaca 9480 9540 atgattaatg aacaaaaaca aagagaaaaa aacacacatc aattaaagga gacaaaaaga 9600 ggcagagcga gtagagagca gccctcattc accacctggt cccagacgtg cttcagtcct cgtcctctct ttgtggctgg ctcccagcct tctctttcct cttgaggata cttagggtaa 9660 9720 actggatcct tcctgctcaa ggatcctcat ttgtatacct agtggaaagg actctgaact 9780 cagaggagtc actgttcctt tttttaggtt agaaattaac agcagggaaa tgccatctta ttacctgaga cgaccagcac tgggagttag gtacggtctg aagttatgtc tagataagac 9840 9900 ttcagacgtc ctgggattga aagaatgtgt gtgaaggggt agaatttgtg cggtaaagac 9960 ctttctggat taatccagtg atggtcccac ctttagtgtt tgagctttgt cattgcttgt 10020 ctccctggca tgtgccagtt atagactgtc cagcatccaa gacgtttcgg ttatgtcggg 10080 tcctcagatc gcctctgact tgttaccaca acaaatcatt ttgatttcag tgcctgttgg 10140 ggacttgatt tcttctcagt tttgtttgtt tgtttgtttc cttaatctgg ctcatttgaa 10200 atttcttctc cctctcaacc atcccactaa gttatagcca agaagggaag gagacacggg 10260 gatttggggt tctctgcttg aatgtcttct cctttaccac ctcaccttgt tggtacctcc 10320 ctccctggat ctctgagcca gcagccagga ggacctgacc cagcagttct ttactggccc 10380 ctttgtaggg ccttgctgcc agggggcagg gatgctttcc agcctgcagc aacagaacac 10440 ttgaccttaa aagtctcttc tggtctttgg attagaaaag gcttatgtta gcatagctta 10500 agagcaacct cagagatttg agccctacta agtgactgac cactgtttag agtgtctggt 10560 atctgatgtt catttattcc catgttcttg tgtgtcacag ttcagccagt tttggtttat 10620 10680 gcctagagct acttcaagga actagactaa ttagctatat aggcccagcg atgcttctta ttgatcttaa tagtatgccc ctccttcccc tgtcctttca tttctctatc caagtagcag 10740 10800 tcaggttctt ggtgtgatgg gactgaaaga attccagtca gccagagcct tggcagctct gaagctaacc ttagcatcta agtgtcgatc ttgaattccc tgaaaaaatt tctataggaa 10860 atgaagette cetggteece teetttetgg ceattgteat ceattteeca gttagggeaa 10920 10980 caatgaagga ggacccagcc aagctagaag gaattttgtg gatgggagac agcaggatta gcttcagctt gggctggagc agtcaatata ggatctcagg ccaggcccgc ttttctagaa 11040 tgtgtttaat tttgagtttg ctttattaga tatgtttttt aagagctctg tatatttgaa 11100 ctgctcctta tgtgacaaaa taggtagctc ttgggctcat gtcctgggtt ttggctcttt 11160 aatgattact ccaggccagc atttagtcgt ttgagaattg tagcctgttg ttttcgctgt 11220 gacttgggtc tcagtgctag ggtattgagt caggcagctg gagggttgtg gcccgaggct 11280 gcagtcagag gtatacttcc catagtgctt cacacagetc ccctgcttct aaaggataag gtactgtagc cttggtcctg gggaccacct gcctggggca gtggacatcc taactaaaca ggcttctggc agtagctttg gttcctatcc catcgaaatt ccccaaagcc ctgggccact gccattgggt tagtcaagat gaaggaggag gactggctgc ctccattttg ccttgtttgt tagtttgcct gggtctgtct gaggaaggag ggggtcccgc cttccacctc aacacatccc 11580 11640 ttcagtgact cagagtctca gaaggaaacc ctgactcctg gggccatttc ctaatggtac 11700 tgtaagccaa gcagctttgc ttctgcctct gtttccaagc ccaccctttt cccctgagct cagggttagg gatgggcgct ttcctctctg gttgtgaacg aaaggaagga acatctttct 11820 atggctaaca aaaactaaag gggaagtgag gaaacaggaa gaagtatggt gggggctggg gtagactccc ctggagccaa gcctatccag ctaacaagag ctccctgggg ctggtcacag 11880 ctggctcatg atgctgaact tgaaagtttt tttgtttttg tttttgtttt gtggctcctc 11940 12000 caagatatag gtacatgaag tttaggttaa aggggtggga ttctttattt ttattttgt attgtatgtg tcaagaatta ctctgttgtt caccttttgc tttttgcact gtttgttctc 12060 ttatctgtat tttgagctta gtgctaggac tgagaggctg caccataggg aatgtatggg 12120 12180 agatggtgag gggtgccagt gaggggtgcg tggaggagag gcctgggctc ctctactgga tctacactct gtcccaggtt tttagatccc actgagccca gctgactgaa aacaaggaca 12240 gtcagggtga aacttctttt gccagaagtg tggcctgagt tgaatttctg ggaggatgac 12300 gcagatgtct gctgcagagc tgggctgaga gttctgcagt ctagctctga cttaggtcag 12360 gggcctgttg gtctctcatt ggacgttttt gggtctcact catgcttact gaaacattgt 12420 gccaagaaac tctgtgggat ttgtgtccct taaaccagac tcacttttct gaaaaatctc 12480 cattgttgag gagaggctgc tcaatcgaca ccccgagttc tcatgactgg gaagatagtt 12540 ttcttcaggt gtcaatggcg ttagactccc aggaagacta gccctgccca cagggccacc 12600 tgttggtttg agagcgtgtt cgtgttctct tgccctccct gcctaagagc tactgggatc 12660 acgttagcgg gcatttaggc tttgatgaga gggcacagtt tgagttaggt ttacctcccc 12720 ctttctgtgc ctgggaactg tttggtccag ctttagaact gtggttttga cttccttatc 12780 tcttgggaga agcttctgtt ttaaggaatt tctcttcctt cttctcctgc ctctagcctc 12840 tcctggaaag gcctggatat ggtttctaaa atctcagctg agaacttcag aaaacagcag 12900 cagtattttc cttttcctag tgctaaaatc cctttcccta gaaattggct caccttggga 12960

```
13020
aacccaggga aagaatcagc aggttetetg ceeteeetag gggttgggga aggaeceaee
ccggtcagca cagtgccttt tcctctcctg ctctgagcca gggtggggca ttccctctag
                                                                  13080
attcaggttt gggcaggggt cctatagtcc ctgccatggg gctgcttccc tgtcccttcc
                                                                  13140
ctcccctttg ctggcctact ctggcataat tcaagtgtct tcttgccttg gggatcctta
                                                                  13200
gtggcatcaa atggcaacat ggaatattgt cctccatgcc cctccagaag gacctaggag
                                                                  13260
agtaggtgag ctttccaaag tgagagacga atctttcttt ctttttttt ttaaagggca
                                                                  13320
                                                                  13380
ggatgggtat gctttgggct ttctcctcct gtggccccgg aggaaggaga gactgaggca
aggcaaagtg atagtacact gaagcagaac cggaaacacc caggaactgt tcagaaatct
                                                                  13440
                                                                  13500
cagaagaaat ctgcttctct tcgatggaaa gatataatta acgatcaaag agctctaaga
aaattgcaaa gaagccttaa tgttcaagct ttagaaagat cagagcaatt tttctctttc
agtccaaact aagactctct gtatttaaat ctctctgggg caagagggct agatttcctc
attttgttat gagactagat tggtaccagt agatcagctg cctagcgagg gcaggtttct
tetttgeate tgtgtggett getteeagte tggeetgtee ttteeagetg eettttgtet
                                                                  13740
agcctgctat ggggggccag attatcttga taagagcagg tgatttgggg actagctggg
                                                                  13800
ttggcaggaa aagagcagga tggatctctt gggacaggtt cccccaggag tataaacaca 13860
aggagecagg attgtgetgg cagecaagga aacagtagtg eetgtttgag ttggeagaga 13920
gggccttggc acctcttgca tccaggcagt cttgtgagat gggggcacat agcactgggg
                                                                  13980
aaagcagaac tccattctca cctctatttt gagcttcagt gctttatttc agtatgagga 14040
aaaacaacaa caaactgaag tgcgctttcc gtcctttcaa aggacaactg tcgggaaggg 14100
agagccgagt tgcgaggtag gaggggagca ctggcaggga gagacattct tgactcctct 14160
cttccctggt gtgttgtgat ccagggaatg aaaagaaatt tgaccctgga ttggttctct 14220
ccttggactt aaggaatctt accttttcct tccacaaagt tctcccaggc aaggaccagc 14280
tgcccattct gagcccaggg cagcctcttc aaccattatt ggtctaacct ggcttgtcag 14340
gaaaccaagc ccaccettcc acattgggcc tggctgctct attctgtacc aagtactgga 14400
gaaaaagcat caagttetta geeettgtag ettetaeeet agttteeeat eetetetetg 14460
tggaggccaa accaactett tgccagcage cacaacatge attgacageg gcacagtgag 14520
atataactga tgggctttga acctggttgg ccggggaagc tgtaggggtg gatagagctg 14580
gctttccttc tgggctgtct ccatctgacc ctaccccttc catgtcccac cccactccca
                                                                  14640
ccaaaaagta caaaatcagg atgtttttca ctgtccattg ctttgtgttt taataaacaa
                                                                  14700
                                                                   14717
tttgcagtga cactctg
<210> 13016
<211> 7871
<212> DNA
<213> Homo sapiens
<400> 13016
                                                                      60
tagcattgcc ctggaaatgc ctctggctgt tctggggtct ttgcttttct tttgtgtctt
                                                                     120
gcctctgatg tgctttctct ttgtcttttg tcctcagcct cagactatgg catgaaactg
ccaatcctgc gttccaaccc tgaggaccag atcctgtatc aaactgagcg gtacaatgag
                                                                     180
gagacetttg getacgaagt geceateaaa gaggaggggg actaegtget ggtettgaaa
                                                                     240
tttgcagagg tctactttgc acagtcccag caaaaggtga ggcctagtca ggctgctgct
                                                                     300
                                                                     360
 tgaccagtag gacattgctg ctcttggaca atccacgatt atggggctag agagtgtgag
 agtctctcca gaaaggcaga acagatgagc tctagagaag catgttccat agtgcacaag
                                                                     420
                                                                     480
 gctgcacttg ccttgggggt gagtgacaga aagcaatgcc agaatccttg ttttgccaac
                                                                     540
 taactgatcc tgttaaggcc ctcctggcta cttccctcca tggtttgccg caccttcttg
 tttttagcct tatttttcct ctgtcccttc ctgtgaattt ccttcttcct atgctaagct
                                                                     600
                                                                     660
 ttttgtttgt attctttgtt ccttaaagcc aatataagaa ctcctgggca gtgaaggaac
 acggctttga tttgacccgg gttaaggatg ctaaccaccc tggatatcca gacccatcat
                                                                     ,720
                                                                     780
 ttcttaaatt atttttgaac ttcaagccca aacacgtgca tgatgtccaa ctgcttgaaa
                                                                     840
 900
 tacgattgaa tggccacgtc gtggtgaagg acttggatat ctttgatcgt gttgggcata
 gcacagctca cgatgaaatt atacctatga gcatcagaaa ggggaagctg agtgtccagg
                                                                     960
 gggaggtgtc caccttcaca gggaaactct acattgagtt tgtcaaggta attcccctat
                                                                    1020
 tctgcccatt gctgaagaga gtgggtacag gggaagttgt ttgctgctgt gtggggttga
                                                                    1080
 ccactgtttc ccttttccta ggggtactat gacaatccca aggtctgtgc actctacatc
                                                                    1140
                                                                    1200
 atggctggga cagtggatgg taggttgtgt tctgacctgc ttttttgact tgagtggagg
 gatatggttg aggaagccct tgggaggtaa ttgagctgat cactattttg gaaacactta
                                                                    1260
 aagctaaatt gtaggggatt cagaatcagt tggataagga tgaagcataa catggtacta
                                                                    1320
 gccacaagct ttggagtcag gtctatgtat atcttgttgc tgccatttaa tcagatgttt
                                                                    1380
```

```
1440
gtcttggatg gatgctttta atttccctat aaattgggat taataatggt acctattggt
                                                                    1500
gtaccctgac ctttgtagtc atttgggatc acctaaaact tgtccttatt ctgtttgttt
                                                                    1560
gacatctctt tcctagggga aaaaaaggta aaaggaggag tcctgtaggc ttttggtatg
                                                                    1620
ctctgaaaga ttccagcatt gctggactgc actgggacaa aacttcactt atttatgtct
                                                                    1680
ccttatcctt gggatcaagt cttagagtat atttctttct cagggtttag attctcctgg
ctgccagcat ctcaggctga tttttgcaga gaaagctgcg tctttgtgac atttctcccc
                                                                    1740
cattccacct ctgtaccttt ccccaactca atcttgaatg cactgaggat ttcatcctgt
                                                                    1800
tgtcttgatg tcccccaaat gctgatatta tgacatctag gaggatgaat gtcttaccac
                                                                    1860
                                                                    1920
caaacagacc tgtgttcaag tccctgagga ggaggcagga cagagggata gtgtgtgctg
ggaacccaga actctctggg tcaacgtttc ttcagttgtt gtgtgaatca aaagggaatg
                                                                    1980
                                                                    2040
tgggcttgtg ggaggaggag ggatttgaaa aggctaaagt ttaggcattg gatcattgtc
                                                                    2100
cctgtccagt ctggttatct tggggctctg taaaagtaga acaggaaggt aagatagtga
acctccctat gagcacggct ttttctactt tctagttaaa tctaaagctt ttgcagcact
                                                                    2160
ctgctgttct gtagaccaga ggctatttct gctacttctg gtcttttctc tggacccggg
                                                                    2220
ttcaatcaca gcaatctctt tattgtggct tatttgctgc ttttaagggt ctctcttact
                                                                    2280
taaatgctgt gggtcttaac agtgttttct tccttgtgtt agatgtacca aagcttcagc
                                                                    2340
ctcatccggg attggagaag aaagaagagg aagaagaaga agaagaatat gatgaagggt
                                                                    2400
ctaatctcaa aaaacagacc aataagaacc gggtgcagtc aggcccccgc acacccaacc
                                                                    2460
                                                                    2520
cctatgcctc ggacaacagc agcctcatgt ttcccatcct ggtggccttc ggagtcttca
                                                                    2580
ttccaaccct cttctgcctc tgccggttgt gagaacaaat gactatcctg aacagggtgg
aggggtgtgg gaaagaaacc agccatattg gttttggttt ctgtattttt cacaatgatt
                                                                    2640
                                                                    2700
aatgaacaaa aacaaagaga aaaaaacaca catcaattaa aggagacaaa aagaggcaga
                                                                    2760
gcgagtagag agcagccctc attcaccacc tggtcccaga cgtgcttcag tcctcgtcct
                                                                    2820
ctctttgtgg ctggctccca gccttctctt tcctcttgag gatacttagg gtaaactgga
                                                                    2880
tectteetge teaaggatee teatttgtat acctagtgga aaggaetetg aacteagagg
agtcactgtt ccttttttta ggttagaaat taacagcagg gaaatgccat cttattacct
                                                                    2940
                                                                    3000
gagacgacca gcactgggag ttaggtacgg tctgaagtta tgtctagata agacttcaga
                                                                    3060
cgtcctggga ttgaaagaat gtgtgtgaag gggtagaatt tgtgcggtaa agacttaaaa
aaaaaagtag ggagattaaa aaaaaagaaa gaaaatgctt ccttatctgg aagcctttct
                                                                    3120
ggattaatcc agtgatggtc ccacctttag tgtttgagct ttgtcattgc ttgtctccct
                                                                    3180
ggcatgtgcc agttatagac tgtccagcat ccaagacgtt tcggttatgt cgggtcctca
                                                                    3240
gatcgcctct gacttgttac cacaacaaat cattttgatt tcagtgcctg ttggggactt
                                                                    3300
gatttcttct cagttttgtt tgtttgtttg tttccttaat ctggctcatt tgaaatttct
                                                                    3360
tctccctctc aaccatccca ctaagttata gccaagaagg gaaggagaca cggggatttg
                                                                    3420
gggttctctg cttgaatgtc ttctccttta ccacctcacc ttgttggtac ctccctccct
                                                                    3480
ggatctctga gccagcagcc aggaggacct gacccagcag ttctttactg gcccctttgt
                                                                    3540
agggccttgc tgccaggggg cagggatgct ttccagcctg cagcaacaga acacttgacc
                                                                    3600
ttaaaagtct cttctggtct ttggattaga aaaggcttat gttagcatag cttaagagca
                                                                    3660
                                                                    3720
acctcagaga tttgagccct actaagtgac tgaccactgt ttagagtgtc tggtatctga
                                                                    3780
tgttcattta ttcccatgtt cttgtgtgtc acagttcagc cagttttggt ttatgcctag
                                                                    3840
agctacttca aggaactaga ctaattagct atataggccc agcgatgctt cttattgatc
                                                                    3900
ttaatagtat gcccctcctt cccctgtcct ttcatttctc tatccaagta gcagtcaggt
                                                                    3960
tcttggtgtg atgggactga aagaattcca gtcagccaga gccttggcag ctctgaagct
aaccttagca tctaagtgtc gatcttgaat tccctgaaaa aatttctata ggaaatgaag
                                                                     4020
                                                                     4080
cttccctggt cccctccttt ctggccattg tcatccattt cccagttagg gcaacaatga
aggaggaccc agccaagcta gaaggaattt tgtggatggg agacagcagg attagcttca
                                                                     4140
4200
 taattttgag tttgctttat tagatatgtt ttttaagagc tctgtatatt tgaactgctc
                                                                     4260
 cttatgtgac aaaataggta gctcttgggc tcatgtcctg ggttttggct ctttaatgat
                                                                     4320
                                                                     4380
 tactccaggc cagcatttag tcgtttgaga attgtagcct gttgttttcg ctgtgacttg
                                                                     4440
 ggtctcagtg ctagggtatt gagtcaggca gctggagggt tgtggcccga ggctgcagtc
                                                                     4500
 agaggtatac ttcccatagt gcttcacaca gctcccctgc ttctaaagga taaggtactg
                                                                     4560
 tagccttggt cctggggacc acctgcctgg ggcagtggac atcctaacta aacaggcttc
                                                                     4620
 tggcagtagc tttggttcct atcccatcga aattccccaa agccctgggc cactgccatt
 gggttagtca agatgaagga ggaggactgg ctgcctccat tttgccttgt ttgttagttt
                                                                     4680
                                                                     4740
 gcctgggtct gtctgaggaa ggagggggtc ccgccttcca cctcaacaca tcccttcagt
 gactcagagt ctcagaagga aaccctgact cctggggcca tttcctaatg gtactgtaag
                                                                     4800
 ccaagcagct ttgcttctgc ctctgtttcc aagcccaccc ttttcccctg agctcagggt
                                                                     4860
 tagggatggg cgctttcctc tctggttgtg aacgaaagga aggaacatct ttctatggct
                                                                     4920
                                                                     4980
 aacaaaaact aaaggggaag tgaggaaaca ggaagaagta tggtgggggc tggggtagac
 tcccctggag ccaagcctat ccagctaaca agagctccct ggggctggtc acagctggct
                                                                     5040
```

```
catgatgctg aacttgaaag tttttttgtt tttgtttttg ttttgtgggct cctccaagat
                                                                  5100
5160
tgtgtcaaga attactctgt tgttcacctt ttgctttttg cactgtttgt tctcttatct
                                                                  5220
gtattttgag cttagtgcta ggactgagag gctgcaccat agggaatgta tgggagatgg
                                                                  5280
tgaggggtgc cagtgagggg tgcgtggagg agaggcctgg gctcctctac tggatctaca
                                                                  5340
ctctgtccca ggtttttaga tcccactgag cccagctgac tgaaaacaag gacagtcagg
                                                                  5400
                                                                  5460
gtgaaacttc ttttgccaga agtgtggcct gagttgaatt tctgggagga tgacgcagat
                                                                  5520
gtctgctgca gagctgggct gagagttctg cagtctagct ctgacttagg tcaggggcct
                                                                  5580
gttggtctct cattggacgt ttttgggtct cactcatgct tactgaaaca ttgtgccaag
                                                                  5640
aaactctgtg ggatttgtgt cccttaaacc agactcactt ttctgaaaaa tctccattgt
                                                                  5700
tgaggagagg ctgctcaatc gacaccccga gttctcatga ctgggaagat agttttcttc
aggtgtcaat ggcgttagac tcccaggaag actagccctg cccacagggc cacctgttgg
                                                                  5760
tttgagagcg tgttcgtgtt ctcttgccct ccctgcctaa gagctactgg gatcacgtta
                                                                  5820
gcgggcattt aggctttgat gagagggcac agtttgagtt aggtttacct cccctttct
                                                                  5880
gtgcctggga actgtttggt ccagctttag aactgtggtt ttgacttcct tatctcttgg
                                                                  5940
gagaagette tgttttaagg aatttetett eettettete etgeetetag eeteteetgg
                                                                  6000
aaaggcctgg atatggtttc taaaatctca gctgagaact tcagaaaaca gcagcagtat
                                                                  6060
                                                                  6120
tttccttttc ctagtgctaa aatccctttc cctagaaatt ggctcacctt gggaaaccca
gggaaagaat cagcaggttc tctgccctcc ctaggggttg gggaaggacc caccccggtc
                                                                  6180
agcacagtgc cttttcctct cctgctctga gccagggtgg ggcattccct ctagattcag
                                                                  6240
gtttgggcag gggtcctata gtccctgcca tggggctgct tccctgtccc ttccctcccc
                                                                  6300
                                                                  6360
tttgctggcc tactctggca taattcaagt gtcttcttgc cttgggggatc cttagtggca
                                                                  6420
tcaaatggca acatggaata ttgtcctcca tgcccctcca gaaggaccta ggagagtagg
                                                                  6480
tgagctttcc aaagtgagag acgaatcttt ctttcttttt ttttttaaag ggcaggatgg
6540
                                                                  6600
agtgatagta cactgaagca gaaccggaaa cacccaggaa ctgttcagaa atctcagaag
aaatctgctt ctcttcgatg gaaagatata attaacgatc aaagagctct aagaaaattg
                                                                  6660
caaagaagcc ttaatgttca agctttagaa agatcagagc aatttttctc tttcagtcca
                                                                  6720
aactaagact ctctgtattt aaatctctct ggggcaagag ggctagattt cctcattttg
                                                                  6780
ttatgagact agattggtac cagtagatca gctgcctagc gagggcaggt ttcttctttg
                                                                  6840
catctgtgtg gcttgcttcc agtctggcct gtcctttcca gctgcctttt gtctagcctg
                                                                   6900
ctatgggggg ccagattatc ttgataagag caggtgattt ggggactagc tgggttggca
                                                                   6960
ggaaaagagc aggatggatc tcttgggaca ggttccccca ggagtataaa cacaaggagc
                                                                   7020
caggattgtg ctggcagcca aggaaacagt agtgcctgtt tgagttggca gagagggcct
                                                                   7080
tggcacctct tgcatccagg cagtcttgtg agatgggggc acatagcact ggggaaagca
                                                                   7140
                                                                   7200
gaactccatt ctcacctcta ttttgagctt cagtgcttta tttcagtatg aggaaaaaca
acaacaaact gaagtgcgct ttccgtcctt tcaaaggaca actgtcggga agggagagcc
                                                                   7260
gagttgcgag gtaggagggg agcactggca gggagagaca ttcttgactc ctctcttccc
                                                                   7320
tggtgtgttg tgatccaggg aatgaaaaga aatttgaccc tggattggtt ctctccttgg
                                                                   7380
acttaaggaa tettaeettt teetteeaca aagtteteee aggeaaggae eagetgeeea
                                                                   7440
ttctgagccc agggcagcct cttcaaccat tattggtcta acctggcttg tcaggaaacc
                                                                   7500
aagcccaccc ttccacattg ggcctggctg ctctattctg taccaagtac tggagaaaaa
                                                                   7560
gcatcaagtt cttagccctt gtagcttcta ccctagtttc ccatcctctc tctgtggagg
                                                                   7620
                                                                   7680
ccaaaccaac tctttgccag cagccacaac atgcattgac agcggcacag tgagatataa
                                                                   7740
ctgatgggct ttgaacctgg ttggccgggg aagctgtagg ggtggataga gctggctttc
 cttctgggct gtctccatct gaccctaccc cttccatgtc ccacccact cccaccaaaa
                                                                   7800
 agtacaaaat caggatgttt ttcactgtcc attgctttgt gttttaataa acaatttgca
                                                                   7860
                                                                   7871
 gtgacactct g
```

```
<210> 13017

<211> 2775

<212> DNA

<213> Homo sapiens

<220>

<221> SITE

<222> (40)

<223> n equals a,t,g, or c
```

<220>

```
<221> SITE
<222> (76)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (1036)
<223> n equals a,t,g, or c
<400> 13017
                                                                       60
ggaaacagga agaagtatgg tgggggctgg ggtagactcn cctgaagcca agcctatcca
                                                                      120
gctaacaaga gctccntggg gctggtcaca gctggctcat gatgctgaac ttgaaagttt
ttttgttttt gtttttgttt tgtggctcct ccaagatata ggtacatgaa gtttaggtta
                                                                      180
aaggggtggg attctttatt tttatttttg tattgtatgt gtcaagaatt actctgttgt
                                                                      240
tcaccttttg ctttttgcac tgtttgttct cttatctgta ttttgagctt agctgctagg
                                                                      300
actgagaggc tgcaccatag ggaatgtatg ggagatggtg aggggtgcca gtgaggggtg
                                                                      360
cgtggaggag aggcctgggc tcctctactg gatctacact ctgtcccagg tttttagatc
                                                                      420
ccactgagcc cagctgactg aaaacaagga cagtcagggt gaaacttctt ttgccagaag
                                                                      480
                                                                      540
tgtggcctga gttgaatttc tgggaggatg acgcagatgt ctgctgcaga gctgggctga
                                                                      600
gagttctgca gtctagctct gacttaggtc aggggcctgt tggtctctca ttggacgttt
ttgggtctca ctcatgctta ctgaaacatt gtgccaagaa actctgtggg atttgtgtcc
                                                                      660
                                                                      720
cttaaaccag actcactttt ctgaaaaatc tccattgttg aggagaggct gctcaatcga
                                                                      780
cacccgagt tctcatgact gggaagatag ttttcttcag gtgtcaacgg cgttagactc
                                                                      840
ccaggaagac tagccctgcc cacagggcca cctgttggtt tgagagcgtg ttcgtgttct
                                                                      900
cttgccctcc ctgcctaaga gctactggga tcacgttagc gggcatttag gctttgatga
gagggcacag tttgagttag gtttacctcc cccttctgtg cctgggaact gtttggtcca
                                                                      960
                                                                     1020
gcttagaact gtggttttga cttcctatct cttgggagaa gcttctgttt taaggaattt
ctcttccttc ttctcntgcc tctagcctct cctggaaagg cctggatatg gtttctaaaa
                                                                     1080
                                                                     1140
tctcagctga gaacttcaga aaacagcagc agtattttcc ttttcctagt gctaaaatcc
ctttccctag aaattggctc accttgggaa acccagggaa agaatcagca ggttctctgc
                                                                     1200
cctccctagg ggttggggaa ggacccaccc cggtcagcac agtgcctttt cctcctgc
                                                                     1260
tctgagccag ggtggggcat tccctctaga ttcaggtttg ggcaggggtc ctatagtccc
                                                                     1320
tgccatgggg ctgcttccct gtcccttccc tcccctttgc tggcctactc tggcataatt
                                                                     1380
caagtgtctt cttgccttgg ggatccttag tggcatcaaa tggcaacatg gaatattgtc
                                                                     1440
ctccatgccc ctccagaagg acctaggaga gtaggtgagc tttccaaagt gagagacgaa
                                                                     1500
tettettte ttttttttt taaagggeag gatgggtatg etttgggett teteettetg
                                                                     1560
                                                                     1620
tggccccgga ggaaggagag actgaggcaa ggcaaagtga tagtacacgg aagcagaacc
ggaaacaccc aggaactgtt cagaaatctc agaagaaatc tgcttctctt cgatggaaag
                                                                      1680
                                                                      1740
atataattaa cgatcaaaga gctctaagaa aattgcaaag aagccttaat gttcaagctt
                                                                      1800
tagaaagatc agagcaattt ttctctttca gtccaaacta agactctctg tatttaaatc
                                                                      1860
 tctctggggc aagagggcta gatttcctca ttttgttatg agactagatt ggtaccagta
                                                                      1920
gatcagctgc ctagcgaggg caggtttctt ctttgcatct gtgtggcttg cttccagtct
                                                                      1980
ggcctgtcct ttccagctgc cttttgtcta gcctgctatg gggggccaga ttatcttgat
aagagcaggt gatttgggga ctagctgggt tggcaggaaa agagcaggat ggatctcttg
                                                                      2040
 ggacaggttc ccccaggagt ataaacacaa ggagccagga ttgtgctggc agccaaggaa
                                                                      2100
                                                                      2160
 acagtagtgc ctgtttgagt tggcagagag ggccttggca cctcttgcat ccaggcagtc
                                                                      2220
 ttgtgagatg ggggcacata gcactgggga aagcagaact ccattctcac ctctattttg
                                                                      2280
 agcttcagtg ctttatttca gtatgaggaa aaacaacaac aaactgaagt gcgctttccg
 tcctttcaaa ggacaactgt cgggaaggga gagccgagtt gcgaggtagg aggggagcac
                                                                      2340
                                                                      2400
 tggcagggag agacattett gacteetete tteeetggtg tgttgtgate cagggaatga
                                                                      2460
 aaagaaattt gaccctggat tggttctctc cttggactta aggaatctta ccttttcctt
                                                                      2520
 ccacaaagtt ctcccaggca aggaccagct gcccattctg agcccagggc agcctcttca
                                                                      2580
 accattattg gtctaacctg gcttgtcagg aaaccaagcc cacccttcca cattgggcct
                                                                      2640
 ggctgctcta ttctgtacca agtactggag aaaaagcatc aagttcttag cccttgtagc
 ttctacccta gtttcccatc ctctctctgt ggaggccaaa ccaactcttt gccagcagcc
                                                                      2700
                                                                      2760
 acaacatgca ttgacagcgg cacagtgaga tataactgat gggctttgaa cctggttggc
                                                                      2775
 cggggaagct gtagg
```

<210> 13018 <211> 14719

<400> 13018 cgtggctgag aagaaggagg cctgagagcg acatgtcccc ggcggctcag gcggagcggc 60 120 ccgtggcgct gtttttctga gtccggggtg gcctggcagc cggccgagga cgagggtcgg 180 cgggggctgc ccccgtggtg gtggccgcca tgctgggagc ctgggcggtt gagggaaccg 240 ctgtggcgct cctgcgactg ctgctgctgc tgctgccgcc ggcgatccgg ggacccgggc 300 teggegtgge eggegtggee ggegeggegg gggeeggget geeegagage gteatttggg 360 cggtcaacgc gggtggagag gcgcatgtgg acgtgcacgg gatccacttc cgcaaggacc 420 ctttggaagg ccgggtgggc cgaggtgaga gtccccctgc cgagccgcgg gatccagggc 480 ctgctgtgct gggcgcagcc ggccgggggc tgcgggcccc gagccccttt cgaccctggg 540 gccgcgtctc tggagcgaag tttctctctg cagcttcttc gggggcccgc tctgagctca 600 qqqcctqqca ctqqctccaa qgtacctaga gtcatacagg cagagagttg gccagaagtt 660 agttatattt ggatttetea teetgeattt teteaaceee teaeteeeat eeaagetggg 720 agagaaatga cgaaggcggc cttttgctac ctccaggcct cgcgggttgt aggtcatggg tgcccctgct tctcctgtcg agacagttct tgggagattc tcgtcgaccc aggaatcggc 780 cgctttcctt gccccttctg caggagcggg gcttgattct tagccagaat aggaaggaat 840 900 cttcgaagag aatgggccag gaaagtttga ttgtagcctc ctcccccgcc ctcttttcga 960 gcgaagaata tgtgtgctta aaagtagaat cggcaggccg cccccagagg gtggttctat 1020 cgaagccatc ctgcacgtga ggctggtggc tgtgtgtgaa ctgggtcaac cagtgtaaga atccgaatgg tctatcagag aatgcttaca acctccccta ggtgatcctg agagttctaa 1080 ttccagctta gggggaaaat gattgtgact taacttgctg ggcaacagtg gtttttaacg 1140 gagctgctcc cttcccaaag ttagtgtgtg tcagaattgc cagggcagct ggttaaaaat 1200 gcagattcct agtccccact cgaaattgat tatagtagat tgagcttttt tgctgggatc 1260 1320 caggtttctg caccagggc ttgtgatgta ggttgccccg agaccaccgt tttggaagat cagctttata atctttgttt cttctgttgg agggattgga aaacaggttt cagaaggaag 1380 ttctttgcta ggagattgat actgtatgct gggttcagag gctaccaaat tggcagtatg 1440 ccacctccag acaaccagga gacagactca ctcttcactt tctctcattc tttttctgcg 1500 1560 atgcccagat ttggctcttg cttttactaa aatagttagt tcttcccaag tcgattgcag 1620 tgtcctggag tttgttatat taaggagttt attgcctttc acacatgtga gggtcttggg 1680 acacaggget gttttgtgaa gttctatgtt tgtcttggag tttgttgage cctggcatgt 1740 agatcacagt agcctgggtt cagctgactc agggctccag tctttagcag cggtaacagc 1800 agccaaagcc agactttata gcaggaggtc attactatct ctatcctgga cccttcctct 1860 ttcttcacga gtgtgggcag ggaggaaaga gcccttgagg aaactagaca gtttgtggac tttgcctctt gagatagcgg tggtgagggt gctgagcgga tggtttcttt cacttagcag 1920 1980 ataccaggcc ttacattggt tacatcgtcc tattcagtct gttgtgcaga gaataaagcc 2040 gagtaagacc acacaggttt agttcccaga tactgccctt attcagaaat tctggtttta atttgctgat gcaggtggtg tgtgtgtgtg tgtgtgtgt tgtgtgtgtt tctttggctt 2100 2160 ggtcagcagt cagccaagat ctgtgtcctt gggttattgg ctcatggttg cagttccttg 2220 gaaggagttt attgtagcag gtaaaattac atgagaccta ccaaagcttg tgtgtactgg agtcctattt cggacactgg cccttggggc attgtataaa tgaaggttcc ctgctaaggt 2280 tcccctctcc attctaccaa tctgggtaag aattggagca gtattaaggc atggatgggg 2340 agtgggaggt ggcgcttgtc agctgcagtt tggaccagct tgttgcaaca ttgcgcttac 2400 2460 caggttcctg agaaaggcat tttgctggct ttaggtcggg ctgagatgcg cataagcttg cactctcagg aggcagctct ctactaagga gtcagtccta ccaagggaag tccagctgtt 2520 cacactgcct ttcttctggg cctgtttgga taagggtgtg ccaggtattt gaagaccctt 2580 gcctcgtgca gctatttaca ctgattgcag taggaactgt atgccttatt tcttttcccg 2640 cctgcctgtg atattgtttc cagcatgctg agaaaagttg attttatgtt gaatgaattc 2700 2760 aggtatttgt taccaagtta gtccagataa gggtttggcc ttcttttgaa cttgctgttt 2820 ctgtgtagtt tctttgtagt tcaacattct tgtaattgtg agtggcccag ggcacctagt ggtttatgct ttcaaaagca gttcagaata tttattgaat ttcatttctg ccttgaggat 2880 agctagtgct tacagcctgg gaaaggcttt ttcagcctgt gtgcttccac agatgggagc 2940 accactacag aaagtggttt agaagcgttc accttggggt tttggtatga ggcacattcc 3000 3060 agggttttta tttatttatt gaaaattttt aattttttt ttattgtaga cacaggggtc 3120 tcactatgtt gcccaggctg gtcttgaact tctgtcctca agtgatcttc ccaccttggc ctcccaaact gctgggatta caggcatgaa ccatcacgcc tgaccatgtt ccagatttgt 3180 3240 aacttggtca ttttgagttc ctcttcactc tgactaggaa aagacctggt tatttgacct 3300 gagggcacag aattttgctt gagtttaggg aaggctattt cctcttcaga gaaagatacc tgctaaagtc gcaggtcctc gagaaacttg ctttacgtct ctgagccttg ttttcctttt 3360 caaaaaatct ctcatgcttt agaaatttct gataagactg taaactctcc tgtccagagt 3420

agcttgaagt gtctctgtca ctttttttt ccttgatgac cttttacatg gaattaaaaa 3480 tagggcagaa catagctcca gaggggaaaa aagttggttg gggaccagag cctatcaggt 3540 3600 tgctaatgct gtaaccttaa ggaataccct ttcctgggct gccttccttt cacctgggga aggatttggc tttggggagg taagagcttg aaacatggga tgagagagga gtcactgcta 3660 cctctgattt gctcaaagcc atggcagttg tttagaattc tctacctcta ctgtcaccta 3720 acaggcaggc ttcatctgca ggccttccaa atagtggaag ttcacaggta gaaaatttag 3780 gtccctgaat ccgtgggttc gctgtctcag cccattcaga acaattcttt aggtactggc 3840 3900 ctcactggag aaagaagtga tccagaagaa cagtctagtg accaggagat ctgagggtag ggtgggagtg acgctagagc accaaggggg gctttacagc tgtgttctca tggaggacag 3960 gcttctgctc attctggctt tcccactctt gtggttccca gttgcagttt tccagttagt 4020 tttattactt ccttttcttt tgatccattc cctaaactgc cttgagtgga ggcatttgtt 4080 tagtgcttat cgtgtgcata tccttgcctg gctagcatac ccatgtttct gtgtctctct 4140 ccgtgtgagg cattgtattg agctatttat acagattgtt ttatccttac cacaatgctg 4200 tgggataggt ggtgtcccca ttttataggt gagaaaacag acctagagaa aacaacttgt 4260 tcagtgacac ttcgtgtatg tcttttcctg aaccctgtgc tgaattttcc aaggagccta 4320 gttactacat tgtctaaaac taagaaagag cagacataat gtaggccctt cggccccctt 4380 cctttttggt taactgagtt atgccaattt cagcagtatg ctgactgtac acttcattgt 4440 attttagaga aatctgtttc gctgtgaatg cataaaggct aaggagggag gaacaaccct 4500 tgtttgctgc tgcatctctt gggacttggg caaattcaac tttgcacgtg gcagatctct 4560 tgggaaagcc acttgggttt taaagggaaa tattttaaag gtaattccaa ggttgttaag 4620 taatttttgt tcacatggtt gagttttctt cactgtggga ctgagactgc cgcagattac 4680 gttactgtca gttcctcact ttttccactt ggcaagaaaa aaaaaaagat tcggcctggt 4740 gtggtggctc acgcctataa tcctagcact ttgggaggcc gatgcgggca gatcacctga 4800 ggttggagtt ggagaccagc ttggctaaca tagtgaaagc ccgtttctac taaaaataca 4860 aaaaattagc cgggcgtggt gatgcgtgcc tgtaatccca gctacttggg aggctgaggc 4920 aggagaatcg cttgaccctg ggaggtggag gttgcagtga gctgagattg cgccattgca 4980 ctccagcttg ggcaacaaga gcgaaactcc gtctccaaaa aacaaaaaca aaaacaaaaa 5040 aacaattccc cacccatgca caaaattttc tgtgtatccg taaatcaaat gtagtcgatg 5100 ttccagattt gtaatgatca cagtcctcat ggaagaagga aattcttaga gctcagttgg 5160 5220 aagagaaaca gcagtctttc agtcttcata ggtttgtatc ccggggcaat ggttttttga ggctggaaag gagggggagc atgttagcag tacatccttt gtatgcattg ctcagctact 5280 ctttgatttc ttgaggagaa atagaaagaa aaaagtctga agacaaaagt gcaatgagtt 5340 tcctcttcca ttgtctcatc agtccctctg atctcgtggc taatgtcact tacaggaact 5400 gttaacagtt atgtttattt ttttgaggtc ttgacctcaa ccactgggtc tttttgttaa 5460 tcttttacct tttgccatgt cttctccctt gttgatgatt cagaagataa agctctgggg 5520 atgacagece etggeettet eccaaaggat etagttgeea gatgtettea gggteaceae 5580 gtgagattgg aaggcagtct tgaaatctta atttcatgcg ggaggagaga ctacatgacg 5640 gctacatctg tagttggaac agtatattta tggagcactg gaaagcctta ctgtgtttat 5700 aggataaagg agtcaggcta ctctctggag gaagcagaac tatttacctc tgagactgaa 5760 atgtgatatc ttatatttgc acaaaaaaga ttcggcctgg cgcggtggct cacgcctgta 5820 atcctagcac tttgggaggc cgatgcgggt ggatcacctg cggtcaggag tttagtgtgt 5880 tgtgcgagag gaagaaaaaa acatatatac aactgtctta caccaaggtt gggagagggc 5940 cagggccaag agaggttttc tgctcttctg atactgaccc gaggtaagta actttttact 6000 tttatcctct ctcattcctt gtcagtttgt gaaatgtgaa aggtgattcc cctaggactt 6060 ggacatetta ggeagattge ettgeeetge aggatgetee ageettgtgg acagagtgge 6120 atggetteae tgetttgeag geaecteett cattgteatt tatteattea geaaactgta 6180 tgagtggcga ctatgtgcca ggtcccgtgc taggcactgg aggtgcagtg gtgacttttt 6240 ttttctgctg ttggtttatc tgagtgaatg ttcaagtaag taggtgaggt ggagttttgt 6300 6360 gagtctgtgg gaaggaagga aattagcatc acacctttct tttatgagcc tgtttttgtt 6420 tacagctttg gaactttttg aatgaaaatt ataaaaaaaa cacacaacaa ctaaagctgg 6480 aattttattc gtaaggacaa tgaagaatga ctttccaaag cagatatcct gtttgtttta gactctgggc ttttctgaat gagagaaaac attctttgaa cttcatcttg tatggagttc 6540 6600 ctggccatcc cccttgtttt aggaggtttc tctgaagccc tccctcttgg ggaaccaggc agctgcaaca cagcactttc ttctggtaat gagttagact tgttctccgt acagtcaggg 6660 ggaaaaagtc attttaatgt gcttttagaa agttccgctc tgaggtttac aggggctgtt 6720 ggcctgatta gtgtttagtt tctttcattt tactcttcca tagtaatggc tgtatgattc 6780 ctgcctttgt tggagctctg tttggagcca ggtgcagagt gggtggcccc ttttatggag 6840 agggttatta gcattgccct ggaaatgcct ctggctgttc tggggtcttt gcttttcttt 6900 tgtgtcttgc ctctgatgtg ctttctcttt gtcttttgtc ctcagcctca gactatggca 6960 tgaaactgcc aatcctgcgt tccaaccctg aggaccagat cctgtatcaa actgagcggt 7020 acaatgagga gacctttggc tacgaagtgc ccatcaaaga ggagggggac tacgtgctgg 7080

tettgaaatt tgeagaggte taetttgeae agteeeagea aaaggtgagg cetagteagg 7140 ctgctgcttg accagtagga cattgctgct cttggacaat ccacgattat ggggctagag 7200 agtgtgagag tctctccaga aaggcagaac agatgagctc tagagaagca tgttccatag 7260 tgcacaaggc tgcacttgcc ttgggggtga gtgacagaaa gcaatgccag aatccttggt 7320 ttgccaacta actgatcctg ttaaggccct cctggctact tccctccatq qtttgccqca 7380 cettettgtt tttageetta ttttteetet gteeetteet gtgaatttee ttetteetat 7440 gctaagcttt ttgtttgtat tctttgttcc ttaaagccaa tataagaact cctgggcagt 7500 gaaggaacac ggctttgatt tgacccgggt taaggatgct aaccaccctg gatatccaga 7560 cccatcattt cttaaattat ttttgaactt caagcccaaa cacgtgcatg atgtccaact 7620 gcttgaaagg atgtaaagct gatggttttg acattgtttt cttttcttat cctggaaqgt 7680 atttgatgta cgattgaatg gccacgtcgt ggtgaaggac ttggatatct ttgatcgtgt 7740 tgggcatagc acagctcacg atgaaattat acctatgagc atcagaaagg ggaagctgag 7800 tgtccagggg gaggtgtcca ccttcacagg gaaactctac attgagtttg tcaaggtaat 7860 tcccctattc tgcccattgc tgaagagagt gggtacaggg gaagttgttt gctgctgtgt 7920 ggggttgacc actgtttccc ttttcctagg ggtactatga caatcccaag gtctgtgcac 7980 tctacatcat ggctgggaca gtggatggta ggttgtgttc tgacctgctt ttttgacttg 8040 agtggaggga tatggttgag gaagcccttg ggaggtaatt gagctgatca ctattttgga 8100 aacacttaaa gctaaattgt aggggattca gaatcagttg gataaggatg aagcataaca 8160 tggtactagc cacaagcttt ggagtcaggt ctatgtatat cttgttgctg ccatttaatc 8220 agatgtttgt cttggatgga tgcttttaat ttccctataa attgggatta ataatggtac 8280 ctattggtgt accetgacet ttgtagteat ttgggateae ctaaaacttg teettattet 8340 gtttgtttga catctctttc ctaggggaaa aaaaggtaaa aggaggagtc ctgtaggctt 8400 ttggtatgct ctgaaagatt ccagcattgc tggactgcac tgggacaaaa cttcacttat 8460 ttatgtctcc ttatccttgg gatcaagtct tagagtatat ttctttctca gggtttagat 8520 tctcctggct gccagcatct caggctgatt tttgcagaga aagctgcgtc tttgtgacat 8580 ttctccccca ttccacctct gtacctttcc ccaactcaat cttgaatgca ctgaggattt 8640 catcctgttg tcttgatgtc ccccaaatgc tgatattatg acatctagga ggatgaatgt 8700 cttaccacca aacagacctg tgttcaagtc cctgaggagg aggcaggaca gagggatagt 8760 gtgtgctggg aacccagaac tctctgggtc aacgtttctt cagttgttgt gtgaatcaaa 8820 agggaatgtg ggcttgtggg aggaggaggg atttgaaaag gctaaagttt aggcattgga 8880 tcattgtccc tgtccagtct ggttatcttg gggctctgta aaagtagaac aggaaggtaa 8940 gatagtgaac ctccctatga gcacggcttt ttctactttc tagttaaatc taaagctttt 9000 gcagcactct gctgttctgt agaccagagg ctatttctgc tacttctggt cttttctctg 9060 gacccgggtt caatcacagc aatctcttta ttgtggctta tttgctgctt ttaagggtct 9120 ctcttactta aatgctgtgg gtcttaacag tgttttcttc cttgtgttag atgtaccaaa 9180 gcttcagcct catccgggat tggagaagaa agaagaggaa gaagaagaag aagaatatga 9240 tgaagggtct aatctcaaaa aacagaccaa taagaaccgg gtgcagtcag gcccccgcac 9300 acccaacccc tatgcctcgg acaacagcag cctcatgttt cccatcctgg tggccttcgg 9360 agtetteatt ccaaccetet tetgeetetg ceggttgtga gaacaaatga etateetgaa 9420 cagggtggag gggtgtggga aagaaaccag ccatattggt tttggtttct gtatttttca 9480 caatgattaa tgaacaaaaa caaagagaaa aaaacacaca tcaattaaag gagacaaaaa 9540 gaggcagagc gagtagagag cagccctcat tcaccacctg gtcccagacg tgcttcagtc 9600 ctcgtcctct ctttgtggct ggctcccagc cttctctttc ctcttgagga tacttagggt 9660 aaactggatc cttcctgctc aaggatcctc atttgtatac ctagtggaaa ggactctgaa 9720 ctcagaggag tcactgttcc tttttttagg ttagaaatta acagcaggga aatgccatct 9780 tattacctga gacgaccagc actgggagtt aggtacggtc tgaagttatg tctagataag 9840 acttcagacg tcctgggatt gaaagaatgt gtgtgaaggg gtagaatttg tgcggtaaag 9900 9960 gcctttctgg attaatccag tgatggtccc acctttagtg tttgagcttt gtcattgctt 10020 gtctccctgg catgtgccag ttatagactg tccagcatcc aagacgtttc ggttatgtcg 10080 ggtcctcaga tcgcctctga cttgttacca caacaaatca ttttgatttc agtgcctgtt 10140 ggggacttga tttcttctca gttttgtttg tttgtttgtt tccttaatct ggctcatttg 10200 aaatttette teeeteteaa eeateeeact aagttatage caagaaggga aggagacaeg 10260 gggatttggg gttctctgct tgaatgtctt ctcctttacc acctcacctt gttggtacct 10320 ccctccctgg atctctgagc cagcagccag gaggacctga cccagcagtt ctttactggc 10380 ccctttgtag ggccttgctg ccagggggca gggatgcttt ccagcctgca gcaacagaac 10440 acttgacett aaaagtetet tetggtettt ggattagaaa aggettatgt tageataget 10500 taagagcaac ctcagagatt tgagccctac taagtgactg accactgttt agagtgtctg 10560 gtatctgatg ttcatttatt cccatgttct tgtgtgtcac agttcagcca gttttggttt 10620 atgcctagag ctacttcaag gaactagact aattagctat ataggcccag cgatgcttct 10680 tattgatett aatagtatge eceteettee eetgteettt eattteteta teeaagtage 10740

agtcaggttc ttggtgtgat gggactgaaa gaattccagt cagccagagc cttggcagct 10800 ctgaagctaa ccttagcatc taagtgtcga tcttgaattc cctgaaaaaa tttctatagg 10860 aaatgaaget teeetggtee eeteetttet ggeeattgte atecatttee eagttaggge 10920 aacaatgaag gaggacccag ccaagctaga aggaattttg tggatgggag acagcaggat 10980 tagetteage ttgggetgga geagteaata taggatetea ggeeaggeee gettttetag aatgtgttta attttgagtt tgctttatta gatatgtttt ttaagagctc tgtatatttg aactgctcct tatgtgacaa aataggtagc tcttgggctc atgtcctggg ttttggctct ttaatgatta ctccaggcca gcatttagtc gtttgagaat tgtagcctgt tgttttcgct 11220 gtgacttggg tctcagtgct agggtattga gtcaggcagc tggagggttg tggcccgagg 11280 ctgcagtcag aggtatactt cccatagtgc ttcacacagc tcccctgctt ctaaaggata 11340 aggtactgta gccttggtcc tggggaccac ctgcctgggg cagtggacat cctaactaaa 11400 caggettetg geagtagett tggtteetat eccategaaa tteeceaaag ecetgggeea 11460 ctgccattgg gttagtcaag atgaaggagg aggactggct gcctccattt tgccttgttt 11520 gttagtttgc ctgggtctgt ctgaggaagg agggggtccc gccttccacc tcaacacatc 11580 ccttcagtga ctcagagtct cagaaggaaa ccctgactcc tggggccatt tcctaatggt 11640 actgtaagcc aagcagcttt gettetgeet etgttteeaa geecaceett tteeeetgag 11700 ctcagggtta gggatgggcg ctttcctctc tggttgtgaa cgaaaggaag gaacatcttt 11760 ctatggctaa caaaaactaa aggggaagtg aggaaacagg aagaagtatg gtgggggctg 11820 gggtagactc ccctggagcc aagcctatcc agctaacaag agctccctgg ggctggtcac 11880 agctggctca tgatgctgaa cttgaaagtt tttttgtttt tgtttttgtt ttgtggctcc 11940 tccaagatat aggtacatga agtttaggtt aaaggggtgg gattctttat ttttatttt 12000 gtattgtatg tgtcaagaat tactctgttg ttcacctttt gctttttgca ctgtttgttc 12060 tcttatctgt attttgagct tagtgctagg actgagaggc tgcaccatag ggaatgtatg 12120 ggagatggtg aggggtgcca gtgaggggtg cgtggaggag aggcctgggc tcctctactg gatctacact ctgtcccagg tttttagatc ccactgagcc cagctgactg aaaacaagga 12240 cagtcagggt gaaacttctt ttgccagaag tgtggcctga gttgaatttc tgggaggatg 12300 acgcagatgt ctgctgcaga gctgggctga gagttctgca gtctagctct gacttaggtc 12360 aggggcctgt tggtctctca ttggacgttt ttgggtctca ctcatgctta ctgaaacatt 12420 gtgccaagaa actctgtggg atttgtgtcc cttaaaccag actcactttt ctgaaaaatc tccattgttg aggagaggct gctcaatcga caccccgagt tctcatgact gggaagatag 12540 ttttcttcag gtgtcaatgg cgttagactc ccaggaagac tagccctgcc cacagggcca 12600 cctgttggtt tgagagcgtg ttcgtgttct cttgccctcc ctgcctaaga gctactggga 12660 tcacgttagc gggcatttag gctttgatga gagggcacag tttgagttag gtttacctcc 12720 ccctttctgt gcctgggaac tgtttggtcc agctttagaa ctgtggtttt gacttcctta 12780 tetettggga gaagettetg ttttaaggaa tttetettee ttetteet geetetagee 12840 tctcctggaa aggcctggat atggtttcta aaatctcagc tgagaacttc agaaaacagc 12900 agcagtattt tccttttcct agtgctaaaa tccctttccc tagaaattgg ctcaccttgg 12960 gaaacccagg gaaagaatca gcaggttctc tgccctccct aggggttggg gaaggaccca 13020 ccccggtcag cacagtgcct tttcctctcc tgctctgagc cagggtgggg cattccctct agattcaggt ttgggcaggg gtcctatagt ccctgccatg gggctgcttc cctgtccctt 13140 ccctcccctt tgctggccta ctctggcata attcaagtgt cttcttgcct tggggatcct 13200 tagtggcatc aaatggcaac atggaatatt gtcctccatg cccctccaga aggacctagg 13260 agagtaggtg agctttccaa agtgagagac gaatctttct ttctttttt ttttaaaggg 13320 caggatgggt atgctttggg ctttctcctt ctgtggcccc ggaggaagga gagactgagg 13380 caaggcaaag tgatagtaca ctgaagcaga accggaaaca cccaggaact gttcagaaat 13440 ctcagaagaa atctgcttct cttcgatgga aagatataat taacgatcaa agagctctaa 13500 gaaaattgca aagaagcctt aatgttcaag ctttagaaag atcagagcaa tttttctctt 13560 tcagtccaaa ctaagactct ctgtatttaa atctctctgg ggcaagaggg ctagatttcc 13620 tcattttgtt atgagactag attggtacca gtagatcagc tgcctagcga gggcaggttt 13680 ettetttgea tetgtgtgge ttgetteeag tetggeetgt eettteeage tgeettttgt 13740 ctagcctgct atggggggcc agattatctt gataagagca ggtgatttgg ggactagctg 13800 ggttggcagg aaaagagcag gatggatctc ttgggacagg ttcccccagg agtataaaca 13860 caaggagcca ggattgtgct ggcagccaag gaaacagtag tgcctgtttg agttggcaga 13920 gagggccttg gcacctcttg catccaggca gtcttgtgag atgggggcac atagcactgg 13980 14040 ggaaagcaga actccattct cacctctatt ttgagcttca gtgctttatt tcagtatgag 14100 gaaaaacaac aacaaactga agtgcgcttt ccgtcctttc aaaggacaac tgtcgggaag 14160 ggagagccga gttgcgaggt aggaggggag cactggcagg gagagacatt cttgactcct ctcttccctg gtgtgttgtg atccagggaa tgaaaagaaa tttgaccctg gattggttct 14220 ctccttggac ttaaggaatc ttaccttttc cttccacaaa gttctcccag gcaaggacca 14280 gctgcccatt ctgagcccag ggcagcctct tcaaccatta ttggtctaac ctggcttgtc 14340 aggaaaccaa gcccaccctt ccacattggg cctggctgct ctattctgta ccaagtactg 14400

```
gagaaaaagc atcaagttct tagcccttgt agcttctacc ctagtttccc atcctctct 14460
tgtggaggcc aaaccaactc tttgccagca gccacaacat gcattgacag cggcacagtg 14520
agatataact gatgggcttt gaacctggtt ggccggggaa gctgtagggg tggatagagc
                                                                    14580
tggctttcct tctgggctgt ctccatctga ccctacccct tccatgtccc accccactcc
caccaaaaag tacaaaatca ggatgttttt cactgtccat tgctttgtgt tttaataaac
aatttgcagt gacactctg
                                                                    14719
<210> 13019
<211> 477
<212> DNA
<213> Homo sapiens
<400> 13019
tacaccaagg ttgggagagg gccagggcca agagaggttt tctgctcttc tgatactgac
                                                                       60
ccgaggtaag taacttttta cttttatcct ctctcattcc ttgtcagttt gtgaaatgtg
                                                                      120
aaaggtgatt cccctaggac ttggacatct taggcagatt gccttgccct gcaggatgct
                                                                      180
ccagcettgt ggacagagtg gcatggettc actgetttgc aggeacetec tteattgtca
                                                                      240
tttattcatt cagcaaactg tatgagtggc gactatgtgc caggtcccgt gctaggcact
                                                                      300
ggaggtgcag tggtgacttt ttttttctgc tgttggttta tctgagtgaa tgttcaagta
                                                                      360
agtaggtgag gtggagtttt gtgagtctgt gggaaggaag gaaattagca tcacaccttt
                                                                      420
cttttatgag cctgtttttg tttacagctt tggaactttt tgaatgaaaa ttataaa
                                                                      477
<210> 13020
<211> 517
<212> DNA
<213> Homo sapiens
<400> 13020
atttgaagag ggcttgcctt ccaacctata ggcactatat atgcttttgg aaaaagtaat
                                                                       60
taggttaaga tgcagttgtt ttgttttgct ttgtttttcc cttagctggg ttggggtttc
                                                                      120
tagcagcaat gatgtacagg tggatctttt ttcacattaa cactaccagc tgctccatgg
                                                                      180
ctatagtgct taggaatatc tcagaatttc aacagatcta tcagctgcaa tatctaggag
                                                                      240
tettgecaac acagagacac atteacatge tgaaaagage atgagttgaa ggeacagetg
                                                                      300
gggacttttg atgcaggtcc agaactggat ggttgtgaag ccattagaga tatttaaatt
                                                                      360
gtccagaatt tcaggctctg ctttaaaaac taggctacaa accctcattc agaaagaggt
                                                                      420
cagtaatatg cctgtgagtt agaaagatac tggaaacatt tcaatgccaa aagtaacatt
                                                                      480
tttttccaga atgctatgac taaatttttt aaaaaaa
                                                                      517
<210> 13021
<211> 18501
<212> DNA
<213> Homo sapiens
<220>
<221> SITE
<222> (9479)
<223> n equals a,t,g, or c
<220>
<221> SITE
<222> (9480)
<223> n equals a,t,g, or c
<400> 13021
cccctgcctt ttttttttt ttttttgaga cggagtcttg ctccgtcgcc caggttggaa
                                                                       60
                                                                      120
tgcagtggcg cgatctcggc tcactgcaag ctcgactccc gggttcaccc cattctcctg
                                                                      180
cctcagcatc ctgagtagct ggagctacag gtgcccgcaa ccacgcccgg ctaattttt
tgtattttta gtagagacag ggtttcaccg tgttagccag gatggtctcg atttcctgac
                                                                      240
```

```
ctcgtgatcc gcccacatcg gcctcccaaa gtgctgggat tacaggcgtg agccaccgcg
                                                                     300
ccctgccagc ccctgctctt ttcaaagcct gcttctgcag ctgcttcatc aatgctattt
                                                                     360
actoccaatt atotttocaa toaattooot titgotcaaa tiggagtoag titotgitgo
                                                                     420
tttcaaccca aagaacagtt aactgatcca gctttcatca tctggcccat ttccagtctt
                                                                     480
agttccctcc agcatatgcc ataaccatag ctcagtggtt ctcaaacctg agagtgcaaa
                                                                     540
                                                                     600
cccaagtgat gctacctctc tggtctagga accactgctc tagagttctc tttacatctc
                                                                     660
cccagcgtat acccctattt gggtagggta ttcaactgtc ccattttgcc caggacttaa
                                                                     720
aggtttccag ggaagtagga ctttcagtgc tgaaaccaag ccagtctagg gcaaactgga
                                                                     780
ctgtaggaat tgtagctgca aagagccatt ctcttcacca cccacaggaa atagaaatga
                                                                     840
aatgtaaaca ctttcattcc actctccttt gtccccatta aggaaggact tggtaggcac
                                                                     900
actcagcaga tgaaacatta aaaggctgcc tctccttggc atagaaatca ctttctgata
                                                                     960
                                                                    1020
cagagaatgg acttaagcag gtatccacag agactacttt atttattac aatgccatag
tttagaaaac aatcactcct gtacgtggtt cttaccttaa ggtcaccgga ggagaacatg
                                                                    1080
ctgatgtaat tgttgaccat cttaaacaca taccctcggt ccataaatgt aaagcagcgc
                                                                    1140
taaaatagat aaaattctaa atttaaacac ttttacttga agaatcatta aagattttag
                                                                    1200
aaaatatgat taaatatatt gaagtaaaat aacactaaac taaatgtgtt gtataattag
                                                                    1260
gtatttaaaa aatcttctaa agatgtttaa gcagtcatcc acatatggca actaaaataa
                                                                    1320
ctacaattta tattaaaaat gaaaatgaaa cagggcaata tactaacaga gaataggtac
                                                                    1380
atttaaaaat tcagaagaaa acaagaaaaa ttgaaaggaa aaacagaatg aaagcataaa
                                                                    1440
tgaataaaac aaaaatatca atcagaaagt tataaatcta tattgatttt ataaaatgtc
                                                                    1500
actggagctt tgcaatgaaa tattatagcc ccttcttttt tatacagaaa gctttagctt
                                                                    1560
teggttgtet acttttttaa ceaettagtt acattttatt attttettt aataatteea
                                                                    1620
tttcacactt atggggttgt aaatcttctc ctgtacacac tgggtcataa tgaggagtgg
                                                                    1680
tagagacgag tcaggaaagc cttttaaatc tcactggccc cttttgacag agtagctcct
                                                                    1740
ctccttatca gctgaggaag cttgcatttg aaggctgaag gaaggagatc gtaagatttc
                                                                    1800
tatcagcgag ctgcttacta cctttcttat tctgtggtca aattctcttt actgtatcaa
                                                                    1860
                                                                    1920
ggagagtett aaacagtaag taggettgga ggagcaettg etetetee aaaagaegga
                                                                    1980
tggtcatgta accagtaacc aagctaccac ggccaaagac tgcacaggca aagtgtggag
caggaggaag ggaccatagt tcccaacgca ggatctgggg aggcactaga gcaggtgcct
                                                                    2040
                                                                    2100
cccatagtgg atctgcagct cattacttgg tgtgtgagtc tcattctatt cacccacgtg
ggtgtgagta aacatgctgc ttgggaaaat tccacagctg gtgtggagtg cttctttctt
                                                                    2160
gtcgaaagtg tccaggatga tccattaaaa tggttttgca tttcttggag tctctcctca
                                                                    2220
attttactca cagacaggac tacacataaa atcttgctat ggagagtgga ccaagagctc
                                                                    2280
tatggaaaac attcatttat tccaaaagca caagctattt aagccaagta gagtagatat
                                                                    2340
gaagggtttt cactttttag agacttgctt atccatcctt atctgatatt tagagagaaa
                                                                    2400
taccacagat gtttaaacca agtctctctc taatattagg tgatttccaa atggttttca
                                                                    2460
acagctcatt gaaacaaagc agtggttagt caggcgaatg ggctaaaaga tacggctatc
                                                                    2520
caatcagcaa aataaaaatc agaatgaatc agcctttgct accatcttgg tattgtgctt
                                                                    2580
cataaaaaga gtgtctaaat aggtatgttc agataagtag agctgtgacc caggtgggtg
                                                                    2640
gcaaaaagaa aaatgacaaa agctgcaatc atttgaatcc tatttacttc actgagagaa
                                                                    2700
tagttgagaa atgtacaagc tttttggcat aattgctgaa aaaatattac tttcccataa
                                                                    2760
tgtggggtaa gggaggctac cttttaatgt agaacatttt tatatgccca cacactggtt
                                                                    2820
cccagaggtt cttcttgatt cttggagacc aattttgagc aacccatgga gttacaataa
                                                                    2880
                                                                    2940
tattttaatt gttaaattcc aatgttgact aattcacagt atttgctaat gtagacttca
ataacaaaaa gaggtagcag tcatttgaag ccccaattga gcaaataact attgtttgct
                                                                    3000
ggaaatataa gagatttatg acatcagcac taggagtggg ctgtgttgag catctgaaaa
                                                                    3060
ctcaaattta ttggaattgc accaaatgac tacgttcagt tttacatttt caaaaatcac
                                                                    3120
tttcttttcc tttcttttt ttctctccta gctcaaatga ttcatctaat aagtgttcca
                                                                    3180
atttttttta atattatgtg tcaaataaat gccattaaaa cttcaaatta gtaataagga
                                                                    3240
                                                                    3300
gggtaactat gaggtctttt ccctttttta gagacttgct tattcgtcat tttttgcagt
                                                                    3360
ttagggaaga atatttcaga tgtttctttc aatatatttt atttgcaaac tgaactatac
ataattettt etaagtttee tagtaaacta ttageatage aataaacttt atteecatag
                                                                    3420
                                                                    3480
gtcttaaaat gtggtagaaa actacagtaa cttttccccc ctttaaactt ttccccttta
                                                                    3540
acacttatca ttcttgtctc tttctggaag caagaaaaaa gtaaaaatca gagacaaaac
                                                                    3600
cttgaagaaa aaaataaatt caggataaga acacatacag tgtataattt gaaatagttt
                                                                    3660
ttaacacatt aaaaaaaaga aattaggctg gattaaagct caccagtgac aagttgggcc
                                                                    3720
cattttccac ttctataggc ttttaactgt atattattag catttattta tacattctca
                                                                    3780
cactcaccca tatgttctgg tgactaccat taagaaacaa gtcaaatgac ttcataaagg
                                                                    3840
ttatagtagt caagagttag actaaagaag gaggcacaga aaactattat ctttctaatt
gcttgcatta tctgttaaat ggtatactgt aattatgtat cttagttttt tcttcgactt
                                                                    3900
```

```
3960
tgcatttctt tcctctcagc tcaatataaa tggttgtaac ccaatgaaat ataactaatt
tccatacata tccagtttag taagtagcta ctcaatactt tacttgataa tttttctttc
                                                                     4020
atgggatcag tgtgatcttt ccataatgta aaaaacagcg tgggtcaacc ttggtggctc
                                                                     4080
acacctgtca tcccagcact tagggaggcc aatctcttga gctcaggagt ttgaaaccag
                                                                     4140
cctgggctac gtggcaaaac cccgtctcta caaaaaatac aaaaattagc caggtttgtg
                                                                     4200
                                                                     4260
tctgtgtcct actcaggagg ctgaggtggg aggatcgcct gagcccaggg aggttgaggc
                                                                     4320
tacagtgagt tgtgatcatg ccagtgtgct ccagcttggg ttgacagagt gagatcctgt
ctcaaaaaga aataaagaaa aaaaagagcc tggagataat aaacaaaaat gctaaattcc
                                                                     4380
tgaagcgttt cccaaagtgg ctatttggta tcactgtcag agctaaagcc attataacat
                                                                     4440
cactttcaaa ggcagaaatg tccaagagaa taatattact gtagtgcagc ttccttttta
                                                                     4500
aaaatttcat tttttctctt aaaatatatt tagaaatact atgatttgac tgcactcaaa
                                                                     4560
tggatacttt tctctaacct tagttttttt tttctttctt cctgtctttt tttttttga
                                                                     4620
                                                                     4680
gacagtetet etetgteace aggetagagt geagtggtgt gatetegget caetgeaace
                                                                     4740
tecgeetece aggtteaagt gatteteetg ceteageete ceaaataget aggaetaeag
                                                                     4800
gcacgcacca ccacgcccag ctaatttttg tatttttagt agacacgggg tttcaccatg
ttggccagga tggtctctat ctcttgacct catgatctgc ccgccttggc ctcccaaagt
                                                                     4860
gctgggatta caagcataag ccatcgcgcc cggccttcta accttagtct ttattcaata
                                                                     4920
agacttcaaa ttgaaaaaaa aaattaaaaa gtatttcaag caataaagat gtataaatga
                                                                     4980
aagttttcat ctgacagtgc tagttttgat ttttcatcat acatgaagat gtgaactgat
                                                                     5040
gaaagtttag actatcttgc atccaccaac atggggcctt gaatagaact gcgatctcat
                                                                     5100
ataactgtac cttgagaaat ctggcaacgc tgtggtttgc ccttcttgtt tcttcaagtg
                                                                     5160
catccttgta tttccaaatc acatggtcgg ataggaccat gacaagattg tccaattcat
                                                                     5220
tttggtaaga ttcaggaaat ctctgaggcc ggggaagcta aggaaagaac ggattatatc
                                                                     5280
tttctaatgt ggcatgtgaa atattaagcc gaggaagtat caactgaaat atttacttta
                                                                     5340
ttttataggt cattaaagaa aaagaatcct tttgaaaact tgaaagcagt aataaaatag
                                                                     5400
aagcctttta ctttcaaggt catgatttcc atcattaata tttagtgttt ccttcaattt
                                                                     5460
tggtcaataa aattttcact ttataataaa agtcaatcat aacaaatatt aattgcaaac
                                                                     5520
tattgaaaca atgtagcaat gtacaaagta aaatgtgaac cttctctgtg gcctctcata
                                                                     5580
                                                                     5640
tcttactttc cctccttccc tctcagggaa tagctactat taatggttaa tgaacattat
tctagatatt ttggacatgt agttctctat ttcatttaaa aataaattat tttgattttt
                                                                     5700
                                                                     5760
ttacaactag gaatgccccc aataaactag tctaagaaat taataaatga ataactgaat
                                                                     5820
gaatacagat attggtttga aatgtcctct gacatttggt gagtcccagc tagttttaac
                                                                     5880
tccctggtcc cagtatatgc cacagttaag agacaccagt gggacctcac aagtcaagat
                                                                     5940
aaagaagggc ttggctgtga gatgacatta catccactga ataaagctct atggatctca
aaagaccatt tcaggtccag atatccatcc ctcctgtttg gactcctgca tatgagggga
                                                                     6000
acatttgagg cagccgagtt cttccatctc agactctgct ttttttttt tttttttt
                                                                     6060
                                                                     6120
tttggagaca gggtctttct gtgtcaccca gattggagtg caatggtgtg atctcagctc
                                                                     6180
actgcaacct ctacctcctc agtttaagta attgtcccac ctcagcctcc caagtggcta
                                                                     6240
ggactacagg cgccctcctg tagtccatac ccagctaatt tttagtagtg acagggtttc
                                                                     6300
gtcatgttgg ccaggttggt cttgaactcc tgacctcaag tgatctgctt gccttggcct
cccaaactgc taggattaca agtgtgagcc cccgtgccca gccttacttc tgataagatt
                                                                     6360
                                                                     6420
cattcatctt taccagctgg ctttaaaaaat tagacccaga cacattttca ctatagatag
                                                                     6480
aatcatggaa tttagagtta cactgaactg tgtatttcta aattgtgagc acccagactt
                                                                     6540
ccatgctgca aggataaaaa tcatgaaggc tgaagttaca ggagttgtat gaaacagata
                                                                     6600
tttaatggaa ttttaacggga tgttggagct ggtttaggct ggcttctatt tttttttt
tttttttgag atggagttte getetgttgt ecaggetgga gtgeagtggt aegateteag
                                                                     6660
atcactgcaa cctccgcctc ctgggttcaa gcaattctct gcttcagcct cctgagtagc
                                                                     6720
tgggattaca ggcacctgcc accacacctg gctaattttt gtattttta gtagagatgg
                                                                     6780
ggtttcacca tcttggccag gctggtctta aactcctgac ctcatgatcc accagcctca
                                                                     6840
                                                                     6900
gcttcccaaa gtgctgggat tacaggcttg agccaccccg cctggccaga ctggcttcta
tttttaagcc actttaccag gacatcactg catggatatt tttgaaaatt tcatggttac
                                                                     6960
tctctatata tttaaaattt attgttgaaa tcaaataaat taacaactaa tgaacttaac
                                                                     7020
                                                                     7080
tgatttgatc acacacagca tttttaaatt ctcttccata aaacttgggt aataaaggta
                                                                     7140
aacaattcac ctacaaaaag caacagtcac cttttaaaga atcaaagcac acttttaatt
                                                                     7200
ttcaattttc gttttgttag tcctctaaaa ttccttaagc atatcatacg tacattttcc
                                                                     7260
ccacatgcat atgcatgaat gccttgggct ttaatattcc atttgttcct tcctctttac
                                                                     7320
acetteetet caaagtetee tgtggeetae teteaetetg aacecaaaga tgtetgeeta
                                                                     7380
ataaatatat gagtactttt aaaactgttt tcccgaagta tatcctaaag actcgaggtg
                                                                     7440
gaagaattcc tgcactggag attgtgaatt ttttgtctca ggagatgaag ggagtgagat
                                                                     7500
ggtggcacac ttcccaagct gcagagctgg accatgatga atctgagcta cagcatggcg
aggtcaaggg gaacaggcct gggatgcatg ggcagaactg taggcttttg ggagttttgt
                                                                     7560
```

7620 tagaaacaag gaggatgatg ggaaacaaaa ggtttagctg gttcaatgat ccttttgcta ctagagaata atgttgagaa aacattcagt ggttcccagg aaattgtttt agtttgtttg 7680 tgttttgttt tgtttgagac agagtctctg tggcccaggc tggagtgcag tggtgcaatc 7740 tcagctcact gcaaactcca cctcccgggt ttaagcaatt ctcgtgcctc agcctcctga 7800 gtagctggga ttacaggtgt gtgccaccac atccagctaa cttttgtatt tttaatagag 7860 7920 atggggtttt gccattttgg ccaggctagt cttgaactcc tgacctcagg tgatctgccc 7980 acctcagcct cccaaagtgc tgggattaca ggcatgagca actacaccca gccattccca 8040 ggaaactgga actcacgctg gccaagtgcc caacaacatt gcacctttta gaggactaaa ccagatatct cccctgactt cctcagatct tccacactta ctccttggat gatggaaatt 8100 cctttaatag tggagaaaac cattcacttc acaatttaaa aagaaaaaaa aaagaaaata 8160 caaatagctt gggaaaagtt tactgtgaat gctttggtgt caaatgataa tatcagggct 8220 gggtacaatg gctcacgcct gtaatcccag tactttggga ggctgagatg ggcagatcac 8280 8340 ttgagcccaa gagttcgaga ccagcctggg caacatgacg aaaccccatc tttactaaat 8400 8460 catctatcaa tcatctatat gaaattagct gggcttggtg gccatgcctg tagtcccagc tactagggat gctgaggtga gagaatcacc taagttgggg aagttgaggc tgcagtgagc 8520 tatgattgtg ccactgcact ccagcctggg caacaggagt gagaccgtgt atcaagggga 8580 aaaaaaaatg ggccatgcgt ggtggctcat gcctgtaatt ccagcacttt gggaggctga 8640 ggtgggtgga tcacctaagg tcaggagttg gagaccagtc tggccaacat ggtgaaaccc 8700 8760 cgtctctact aaaaatgcaa aaattagctg ggtgtggtgg catgcacctg taatccaagc tgcttgggag gctgaggcag gagaaccact tcaacccagg aggtggagct tgcagtgagc 8820 cgagatcgtg ccactgcact ccagtgtggg cgacagagcg aaactccgtc tcaaaaaaaa 8880 aaaaaaaaag taaagaaaaa agatgatatc aggtcttttc ccactgtgat gattagagat 8940 ggttagagtg gaaggtgcag ggctcctgaa agaaaactag ggtgtgaggg ttaccactga 9000 aaggggtcac ggaaagcaaa cctcaatcgg agaagataaa ctgctggaca caatcatgct 9060 ggctattatc agttcattta ttcttaggct gctcacaggt gtgttttgtg acctgtctat 9120 9180 acaagcagat gcatactggt aggaactaga agagaatttt agtccaatcc actcttctta 9240 cagatgagaa aacaggcact gagatgttaa gcgtcgtttt cgtcagctaa caagttagtg acagagcagg aattgcaaca gtgaggtttc ctgaccccag tagagcttaa caacagagag 9300 atacgaacca tttttacctt tgtgttagat tttctctccc tcccaggtag gaggctctca 9360 9420 tctccagaag tggagagcag aaatagcaga aaagcaaaaa taggatttgc gagttaagag 9480 ttatggaact ccacagatga ttaaaggtcc agcaagccat ttctgtcata ctagatcann 9540 gccatggtta catagacctg gggcctagaa gcatggatga ggacctctgg atggatgact 9600 ctgaggaagt ggctctgcac acttccctga agccttagtg ctagcagaag tttaattcct ccctattaag tgtcagcact cctcccatgc aagatgatat tgcaaaggcc tctccctgct 9660 agaaatcagg caaacccttg aggagttgtc ccgcctctcc ttctggtgat cagggcaata 9720 9780 cctggaggtt aaatcctagc ttaacccagc tgggggcttg ctgggcctaa taaagcagga aagagaatat acccaaagag gctataaaaa ttagctatca tgtaccacca ggaggtaggg 9840 9900 cagaacctct gcaattgtac attgaggatg tgggccagaa agtaagggca ggtaacttag 9960 aatgcattga catgggtgtg ctttttcaga acatgggatt aaataaggac tcacgggatg agcaactcac tgctagggtt gctctgagaa tctagagatg gcctacttta agcaaagtcg 10020 10080 aaatgtctgg ttgtcctggc agaggataga ggaaaaaata aagaggtgga gggaggtgga tatacaggaa tggacattaa ttgagactgg aagatccacc agtgtatcaa gttccccagg 10140 caggcccaga agacagcatg caccatggcc actaagaagg tgctggggac caatatcatt 10200 aagaaggtca ggggtgtttc ccatctgttg gcaggaggag cagtcacagt cttggctcat 10260 gagcagccat ggggatcagg gatcaccaaa acaacagagg ccatgtgctg tgcttaatct 10320 ccaggagcca gggggctgtg agtatcatga caaatgacaa gactggtggg gaagccaaga 10380 gggaccgact ctcagggagt tgtagagctg gttaatgatg actggaactc ctagggacaa 10440 aacagagagc aaccaacaat ggtggtacat catattaaca aagaaggcaa gaatgggcaa 10500 ctggaagatg gggatgttca ttccaatgaa tagtcatggt tcctttgtct gttcctggac 10560 ctgagtcaca attcagatct ggtacacatt gactgaagag gtgatggggt ccctaaagga 10620 10680 aagcccccac tgcaacaatg cagtagatac atactgtaat gagtctatca attcttctcc aaagggccct atagccattt actcaggcta ctgtacactg agaagaaggg catatagttc 10740 10800 aaggactgtt gcacacagaa tctgagttga cattgatatc cagaaatgaa aagcatcacc 10860 atgtctgccc tgatagagtg gggacttaca gggattaaag gtggagtcct gactaaagtt 10920 ctgttaacag tagatccact gggttcaaag atccccccaa tagtcatgta actggtccca 10980 aatgtataat ttgtattaat aaaactggca tttggagtaa gcttgcacgg gtgcttggtc tgtggaggta tcctagtggg ggaggccagg tgggagcttc tgacactgct tcttcccac 11040 11100 caaaagagta aatcaaaata atataactgt acaccaccaa ccccacctca tgcagcattg 11160 ttatgattta ccctccacgt ggggcagggg caatgccaga ggtcttccct tggccttacc cacaatgggg gctcagagaa atgtgtgtgg aactcaggtg atctacctgg ctgcttcttg 11220

gtcttcctca ctccattgta actgtgaatg gccataggta ccaactctgg tgtgagtaga gtatgatgac cagaggctga gaccactcta gaatgagggt ttgggtcata tcaccaggtg agtcaccaag accttcggag ctgctagtta gagtgagagg gatctagaat ggagagttgg gatgggagat gatgagtaat acataggctc ctgaaaagcc atggaagggg ctgtaattaa ttccatcagg gtccctcttc taagcttcct ttcaggaggg gaggcccatg ggaactgcag ggaagcagat tcatgaactt gtacaatatg tcatgcaaac ttggactgtg gcagccagga atgcacatcg ctcaaatgtt ccttcaagac agaatctagt gggaagaata taaagagttg ctgtatcttg caatatgctc cagcattcat gccaaggcta ccctccccc aggctgctcc cagtcaacga cttagcttgc aaaggtcctg gaggccgatg gccttcccag tgcagggttc ctctaatgac aactctttgc tctcagactt cccatcagcc cagctaaaac cttgtcactg tgagactctt cctagccaat cctccttcct tccccctttt catttacagg tatcagactt tcccatttct ttttcctgtt ccttttatcc tttatagtta tttccctcca atacatcttt 11940 tgcacttcca atattgtctt ggcatctgct tctgaagggc ctgtgccggt tggtgtacac 12000 aatcatttct tctacttata aagtaattat tgtaaactgc taaggtttat aaagcaaata 12060 aaaatggaac tcatgacagc ataatcatta gtgtaattgt tggataatat tgtaaaaata 12120 ttataatatt atattactta tgttcttacc tggattttat ttgtgtcaat caagtgctgt 12180 gccatcgatt ttaggataat tgcaaagaag aaccaggaat gctgttggga aaaaaaaggc 12240 aacgagacat ttattatcct atggcaaaat aatgataatt ttttctttgc aatatgtaat actataacat tgttatgtta aaatgtattc tttgaaacta aatgaattag agcagtaaaa tattctctat tatagtggga tgatttttat ctcaatcctc tcaaaaaaatg tttaaactaa 12420 aacaagttac aagtttattt ggcatgactg actaagcagt tgttttacaa aatatttatt caagggatgt tctagttgtt tcacctagtt aaacaaaact aaacaaactt ttatttattt 12540 atttatttat ttatttattt tttgagacag tctcactctg ttgccaggct ggagtgcagt ggtgcaatca cagctcactg cagtcttgaa ctctccggct caggtgattc tcccacctca 12660 gtctcccgga cagctgcgac tacagatgtg gtcaccatgc ccagctaact ttttgtgttt 12720 tttcgtagag acagggtttt accatggtgc ccaggctggt cttgaactcc tgggcttagg tgatcctccc gcctcagcct cccaaagtcc tgggattaca gttgagagcc accaagcctg acctaaacaa actttttatt gtaccaagct caccctcaa atttcaaagg ttagaggtaa 12900 gggtgaaaat ggaaggtcat atgtctagat atctagaagt tggaagtcaa gctgaaaatg tgttaaataa aatatgtttg atcctcctac ctcgagaaac aaaacttcat aacaccttgg aatgctgccc cagggtgtga ggtcctgggg ggcacagggc ctggcctgcc ccttttcttc tcgcccaagg ctccgtcctg ccccttgagg ggcctggtgc gcatgtgtta aatactttaa aaaacaaagc ttcaaaactt atgtcaccta aataactcaa tctcaaaatt atctgctcat gccagatttt gtcatgaaat aaatgcaggc ccaatgataa gagcagtaca cacctgttcc tacttagggc tttgcagagg tagggccttg tacgcctgag ctcttttgga aactgtccag cctgcacatc tgagtgctgt ccacaacctg gccctcctcc ctgccgcaaa tagctcctta atggggtcta gggttgcact caggcatcaa gacctgtcct ctggagggtcc tggagggctt gggacagaga ttgaagcagg cctggaaatc cacctatagg accttgagca agagggtctt ggggttcctt acaggtctag aaggggaggt aggggctcct ggtgggcttg ttctcttagc tcctcttaaa ccttggcctg tgaggacagg tgcagtatga gaagaacaaa gctcatccca 13620 ggatgggcac ccttctttct tgggcctaag ggtgacactt atctcagcta caaaaagtca 13680 tattgtatat gtatagtttc aagaacgcac cccttgcatc ctctctgctt cctactcctt 13740 ccaccacaga taacagtttt aaattttgtg ctaatcattc ctttgcttta cttcacaatt ttgctacgaa tacttataca atgaagggat atttagttca tctggccact gaacttcata agaatggaac tatcctctat gtattcttct gagattgcct ttttcattca acaaattctg ttctgtggtt cgtttatgtt gaagcacgta gctgggggga tcacatatgg tcaccacatg acatatataa tcaccatgta cttatctgct ctactgtcaa tgggcatttg gattatatcc tgttttaagt catacaaaca atgctgcgat aaacttttga caagacagtc ctaattccag 14100 aagactgact cagataaaaa agagaaggga ttgatattct acaaaggcag ctatggctta 14160 14220 atgaagtggt cacttcttag taagaagaaa tggaaatggc taccaatact attctagcac tccaatagca ttctaatggc tattagaagt gaaacatgtt gttaggaata tgaatgaatc 14280 14340 ccaggcacac tgctgcaatc ctctttccct aatcttgtcc aaaatatttt gagccatcgt gtcaagtgtt ccaacatttg tctcttaatt caacagactc ctacccctct ccatccctta 14400 14460 gcactctggc ctgcctccac tattttcctt gaaaccacca gcactaatga aattgagctt 14520 ttgcctgttc acgtctgatg acagatgaag cctcaactcc tctactgccc tctccacata 14580 14640 ttccagagca catggtccat cgttagcaca atctcttgaa gatgcaattc ttctccgagc attecettea etecatattt taactgagea gtgactetee eeagaggate etgettetet 14700 14760 gatagcccct caagtggttg tggtctccat ttttatccca ctgtagtcga ttctcaacac 14820 agcaatcaga gggatcettt taaaccaagg tcagettggt ttaaaacatt acteetetgt 14880 gcaaaaccct ccaacgacac aactcccagt tctgctctga gtgggaacgc ctggcctatg

14940 ctaactccca agcctccagt ggcttccatg acttcatcgt ccatctttt tttttctttc tgctcacttg gctccagcca cagtgtcctc cctgtctcct gccacagtgt cctccctgtc 15000 tectgeagae acaceageea tgetgetgee tgatgaette acacaggtet tteeetetga 15060 gcatccccat ggccagcacc ctcttcgcct tcaaattttt tttttttttg ctcaagaatt 15120 acctcctcca tcagatatcc tgaccattct atttaaaact tcaaatctcc cctgcacctt cagcactcac aatgcccaat tettacetgt tetacaattt ttetaatgca tettettte taacatacaa tatctatcta tgtatctctc tctctctct tctctggtct tgttgcccag gctggagtgc aatggcatga tctcggctca ctgcaacctc tgcctcccgg gttcaagcga ttcccctgcc tctgcctcct gagtagctgg gattacaggc atctgtcacc actcctggct aattttgttt ttgtattttt agtagagatg gggtttcacc atgttggcca ggctggtctt gaactcctga cttcaggtga tctgcccatc tcagcctcct aaaatgctgg gattacagag 15540 gtgagccact gcacctggcc cactctactt ttttctatgt tgtctcgata tagatctctt 15600 ttgcttagta tctttatatg ctaagtttca atatgaacct tatgctggaa actgcaagag 15660 aaaaagtcta tgaaaatcca tgactcctat cattttccag gagtaagcgt gacccatgcc 15720 tagtactcac agttaaagga ccatctttaa attcttacct ttaggacatg ctttactgtt 15780 gttgagtcat ttgatttcaa aagaccagtc acatttttag ccagttcctc atgtacagtc 15840 ctctccttgc atgccctggt cttgaacacg aactgaagaa aatccaaaaa gtgaataaag 15900 ttaaatactt tgaaaaatga agcttcaaaa actatgtcat gtgaataact tatgtctcta 15960 aattatctgc tcatgccaga ttttgccatg agataaatgc aggcccaatg ataagagcag 16020 tacacacctg ttcctattta gggctttgca gaagtagggc cttgctcacc taagctctcc 16080 ttgaaactct ttgtagaaat caagagaaag agccagagag ccatttagca cgttcaagga 16140 aacatggagg getttgacce acetaettag gacacattee cetteteett cetecaetgg 16200 taacaggtgg catggtagca attetteate etgaaagggt agagcaceca etcaaatage 16260 caagtgggga agccagtgcc ttccagatgc cagtacgtga gctccccaca agcccagggt 16320 ctatgatccc atgcttagac acactatcaa ggcgttcatg aacattggcc atcagtaaga 16380 taacaaatgc tgcatactta ttttttttcc tcaaaaaatt ggttttggca tgcaccactg 16440 agggcacata atggctagtt ttcagtattt cttcatctct taagaatatc agtatcaatt 16500 tatgcacata cataaagttc aaatataaaa tgcttattac tgaattataa tatttcactt 16560 atgaattggg tttgcctcgt ggaaggacat ttcttcataa ttttcacaat tcggatttca ccgtaattga gagtgaaggc aggaaagaga aggaatggct taatgtagag gcacattagc ttttggatct gtaactgttt ctttaaactt tgtagcacat tggcacctaa cttgtcatgg tgggatttga cttctccaag ctcatctcaa aggagaaaga tgaagttaat ggatgcatga aactagataa aatcaagagt aatacaattt ttccctctca tgggttatac ctcagatgtg 16860 agtaacgtca tcatcaatga gctcatgcca tgcacagtta tttagcctga agggcattta aactggcact gaaatattct tattttaaaa ttttgactgt aacccatcag tgctacaaat 16980 cactgttaac catggcattt aattagactg gctttagaca cgcatctttg aaaaagacac ggtgtatgtg tgcattttgc atattgtaga cgaagtgagt tagcagcatt tagcaccact 17100 gaacttgaaa tggtgtttag ataacttcta aataaataca aattgtattg aatatcacat ctttggagga cattcaagca cgcactgtaa caagagtcca atcacaggat gatagaactg aatgttcctt tggtcatttc atctcatgtc acaggagaaa actgaggttc agagaggctg actgcttaag tctagaattg actagaatct agtctcttac ttgccagctt agtgttcttt 17340 cccgagtaaa atgcgagttg attacattta ttaggaggta tttgttttag atatgttaaa 17400 atttattata aaattgttat cagcctaaaa ttccacatag gtgtattttt ggatttgaat 17460 cacttaaagc aagctaagta gataatctcc tgtattataa agtgagatgg tcttgttggg 17520 tatttcagat accctggtta aaaataaagg tcacgccagg atgcatttct aatgcatctc tccaggagcg tcaccggtag aaagtctgag atttgaggta ttcacaaaga gctagccttg gtaatcacaa aaatagtcac aacaccggag gggtcttaat gtaattttca atgatcccac 17700 tgacatgagg aaaataatat gtgttgaaat ggagatgcct gtgtgtaaga tggatcagta acttttttc tctttctcag tccctttaag gattgaaatg aaacattcgg gtaatgaagc 17880 attgagaggg tgaaagttct ccaggtgatt ctgttgaatg gtaaattcat cgatactcta 17940 taaaactaag ctatgaccct atcttaggga gcaaactaaa aaggcttgtg taggtggaac tggctttttg cagttgagat gtggatctta ttgggtaaaa ttatacaata gagaaattat 18000 tgtgaaataa ctatttttgg catatagcct atgtttaaaa agggcacata ctcatgcttt ggcatttggg aagacaacta acatttctgg cagatagaaa acatatggat ataaaaactg 18120 taatgaaaaa aatttcctta cagatggtat ctcagagggg ttcactccag aatgcaattt 18180 ctggttactt ccttttatgg gagtgtggaa ttttttttt ttttttgaga tggagtcttg 18240 etetgttgee eaggetggag tgeagtggea eaatettgge teaetgeaag etetgeetee 18300 cgggttcacg ccattctgca gcctcagcct cccaagtagc tgggactaca ggcgcccacc 18360 accacgcctg gctaattttt tgtattttta gtagagacag ggtttcactg tgttagccag 18420 gatggtetea ateteetgae etegtgatee geeegeeteg geeteeeaaa gtgettggat 18480 18501 tacaggcgtg agccaccacg c

```
<210> 13022
<211> 202
<212> DNA
<213> Homo sapiens
<400> 13022
                                                                       60
ttettttttt ttgagaegga gtettgetet tteacceagg etggagtgea gtggtgeaat
ctcagctcac tgcaagctcc gcctcctggg ttcatgccat tctcctgcct cagcctcccg
                                                                      120
agtagctggg actacaggca cccaccacca cgcccggcta attttttgta atttttttt
                                                                      180
ttttttttt agtagagttg gg
                                                                      202
<210> 13023
<211> 2430
<212> DNA
<213> Homo sapiens
<400> 13023
                                                                       60
ccactcggga gccgcaacct agaagccaga gttgtgtatc agattcaact aggagaaaat
                                                                      120
cccacctcca ggctccatta atccttccaa tggagtggaa gtttctctca cagagaaact
                                                                      180
agtaagggga tccaatggga aaagaacgtt cacacggact agaagacgaa accaatggaa
tggaaaattg tcctcgcgtt ggtagaagca gccaatgaga tgaaaagagc ccgcctccaa
                                                                      240
                                                                      300
agtggctgca gaggcaatgg ggtgaatcgt gctcagaggc gcgctccaat ggggtagcag
ggetegeeeg geegeeacta eeeegettee eegegeeegg agteeeeace eaeggeegge
                                                                      360
                                                                      420
cgcggagccg agtgctgacc cgggtgagag gttcccgcgg ctcagggaag atggcggcag
                                                                      480
ccgtggtgct ggctgctggg ttgcgcgcgg cgcgcagagc cgtggcggcc acgggggtgc
gcggggggca ggtgagaagt ggcgcgggag cgagtagggg gtcctgcggg ctccgaagcc
                                                                      540
                                                                      600
atccggggcc agggggtccc gaaggcgcgc agagccgcgc agagctcctg cctgtggcct
ctgcccctcc gaggcacaag ctccggggct gtgtggtgag gtcgaactgg tggctccgga
                                                                      660
gaacgagctg gtgctgattc ccgccctgcg caggccgggg cgccgaggtc gggacagggt
                                                                      720
cagtgcagcg gctgccgcct tctttccact gcctgcagcc cagctggccc gatgccccct
                                                                      780
                                                                      840
gcaggaaatg agetttetet tettggagee agtgetetge eeteeteagg ettetggeet
cctaatgagc actagtgtta acctctcttc tgcacttgcc agaagcggct cggaggtcag
                                                                      900
agaattcatt ccgtcccgtt ctcccccaac gtgatgcaat gacatcagcc ttctctgaat
                                                                      960
                                                                     1020
cccttacccg aagttccctg gggctagggg agcagaggtc acttagctga actcttacct
                                                                     1080
ccactcattc aagggacaag agttaaaatt cacagagtca catgtgacac ccagatgagg
                                                                     1140
ggtcaactag tgtcaaacag ggcgattgca ttaaaactta aataaaacag gcgacaaggc
                                                                     1200
ttaaagatca gaaaacaagt aacggaaata agtggaaatg tactaacaag gtgagagtgg
aaagagattc aagccatcgc aagagattat ggaaaccatc cctttatttt atattagaag
                                                                     1260
ctgagagaag gaatttatct gaggtaattc agtggtatgg taaggtagga actgagacca
                                                                     1320
aaatccccag tctctcattc tagatccttt ccctaaacag tgctatattt cgtggacaca
                                                                     1380
tgagcaggaa tcaattgcac tgctgaatcc tgataataat accgcctgtt atctaaccag
                                                                     1440
                                                                     1500
gtccagcacc ttctggccct accetttgct gctggtgctc tgaaattcag gaactttcct
cctgggtggg aacgatgaat aggttattag aaggacgaaa ttaacaacta tcagagccca
                                                                     1560
gettetgeca geteeeteet ttgaatatgg tegateeace tteaggteeg aggagetgea
                                                                     1620
ggtgtgactg atgggaatga agtggccaag gcccagcagg caactcctgg gggagcagcc
                                                                     1680
                                                                     1740
ccaaccatct tctcccggat cctggacaag agcctcccag ctgacattct ctatgaggac
                                                                     1800
cagcaggtgg ggtgctctta ggacctatcc ccttaggaat gttgtagata ccatccaacc
                                                                     1860
tgttgaagta acgtggcctc tggcctgtca cttcccccag tgtcttgtgt tccgtgatgt
ggcccctcag gctcctgtgc acttcctggt cattcctaag aagcccattc ctcggattag
                                                                     1920
                                                                     1980
ccaggctgaa gaagaagacc agcaggtggg aagaacaggg ccagggtttg gctgggagga
                                                                     2040
gcccctggac ccagctagag gtcttgctcc ctatgaatga agccacctat gtccctccgc
                                                                     2100
tctctctata gcttctagga cacctactcc ttgtggccaa gcagacagca aaggctgagg
                                                                     2160
gcctgggaga tggataccga cttggtgagt gacttttggc ccttggtccc tcacctatga
atteteatte etaettetea atatgatett cattettega eetetgeeat gateetgaet
                                                                     2220
                                                                     2280
ccctaacccc aagctcaatt tcagtgatca acgatgggaa gctgggtgca caatctgtgt
                                                                     2340
atcatctgca cattcatgta cttgggggcc ggcagctcca gtggcctcca ggttgaacct
gccaactgat taaaggacac cagactctgg atgcttggat ggaaagggaa aaatggaccc
                                                                     2400
tgtgatgcta ataaaactgt tctcccttaa
                                                                     2430
```

```
<210> 13024
<211> 2373
<212> DNA
<213> Homo sapiens
<400> 13024
tgtctctatg gcaacccagt agctggagtc tgaagatgga gaccaacgag tctacggagg
                                                                       60
gatcgcggtc gcggtcgcgg tgagagccgc agctctggct gcaggcataa ggggacgagg
                                                                      120
aaggtcagct gacttcctct gctgcgcttt tgacagccat gtcgtgtttg ctttctttca
                                                                      180
                                                                      240
gatctttaga catacagccc agctccgaag gactggggcc cacttcggaa ccgtttcctt
                                                                      300
cttcagatga cagtcccagg tcggccctgg cagctgcaac cgcagcagct gcagcggctg
                                                                      360
catcagctgc tgcagctact gcagccttca ccactgccaa agcagctgca ttatctacaa
agaccccage gccctgttct gagttcatgg agccgtcctc tgaccccage cttcttgggg
                                                                      420
agccctgtgc gggacccggc tttacccaca atatagccca tgggagtctt ggctttgagc
                                                                      480
ccgtctatgt ttcctgtatt gctcaggaca cttgcactac aactgaccat agttctaatc
                                                                      540
ctggccctgt tccaggctct agctctgggc ctgttcttgg ttccagctca ggtgctggcc
                                                                      600
atggetetgg etetggetet ggteetgget gtggetetgt eeetggetet ggetetggte
                                                                      660
ctggtcctgg ctctggtcct ggctctggtc ctggtcatgg ctctggctct catcctggtc
                                                                      720
ctgcctctgg gcctggtcca gacactggcc ctgactctga gctcagcccc tgtattcctc
                                                                      780
cagggttcag aaacctggtg gcagatcggg tccctaacta tacctcctgg agtcagcact
                                                                      840
                                                                      900
gcccctggga gccccagaaa caaccacctt gggaattttt gcaagtctta gaaccgggtg
                                                                      960
cccgaggact atggaaaccc ccagacatta aagggaagct tatggtttgc tatgaaactt
tgccgcgggg ccagtgcctc ctctacaact gggaggaaga ggtattaaag ttttggcctg
                                                                     1020
ctcccttttc ttgaaggctg ccctcagttt cttaggggag gcagtagttt acatgagggt
                                                                     1080
gggtaccaga agggatatta tagtcattca acttgggatc cacagagagc caccaaccac
                                                                     1140
ctggatcaag tcccaagcat gcaggatggc tctgagagtt ttttcttccg acacggacac
                                                                     1200
cggggactgc tgactatgca actaaagtca cccatgccct ccagcaccac ccagaaagac
                                                                     1260
tcgtaccagc caccaggaaa cgtctattgg ccacttcgag gtgtgaaatg tgagagggta
                                                                     1320
                                                                     1380
ggccagaacg agcccattac tcagagggaa gaagaggaag gaatttctgg tggggctgtg
                                                                     1440
gattctccag tggatataag ggcggaaccc caaggttctt cttccttttc tcaagttagt
ttcttctggg cctccttctt aaccagaccc caccttgccc acccccaac tctctcacag
                                                                     1500
ggaagcgtga agccatgctg gagatgctcc tgcagcatca gatctggtaa gggattgggt
                                                                     1560
aaaggggaag agggatgggg aggagaaaaa ttgggtgaga atggccttga cacccctcgg
                                                                     1620
gctacatagt aaagaggtgc aggcagaaca ggaacccaca aggaagctct tcgaggttga
                                                                     1680
gtctgtgaca caccatgact accgaatgga gctggcacaa gcagggactc ctgccccaac
                                                                     1740
aaaggtgaga acccacccc catcccccgc cacttgcacc agctgggctc tgacaggctg
                                                                     1800
tggccaagta ccaagcccag aggttgagag agagggctga aggccaggag ttactcagta
                                                                     1860
ccctccctca cagcctcacg actaccgcca ggagcaacct gagaccttct ggatacagag
                                                                     1920
ggcaccacag ctgccggtgt gtgagggtga ctaggtgttg ggggcagagc ggggcaggaa
                                                                     1980
aggtagggca gagttgtttt gttctggctt ggggagagtg ggatccatcc tcatcctggc
                                                                     2040
actectecag ggtgteagta acateaggae attggaeaca ceatteegga agaactgeag
                                                                     2100
cttctcaaca ccagtaccct tgtctctggg gaaacttttg ccctatgaac ctgagaatta
                                                                     2160
ccctaccaa ttgggagaaa tatcttccct tccctgtccc ggaggaaggc tgggtggtgg
                                                                     2220
aggggggaga atgactcctt tctgaggggt gaggagggaa gtggggtatg gaatatggaa
                                                                     2280
tctatttctg tctgcactag agaggtcggg aggaagttaa ttctcactgt acttgaagag
                                                                     2340
gctttacata aagggttctc tctcatccca aga
                                                                     2373
<210> 13025
<211> 317
<212> DNA
<213> Homo sapiens
<400> 13025
tggtgcctca tacctgtaat cccagcacct tgggaggccg aggcaggagg atcacgaggt
                                                                       60
                                                                      120
caggagatcg agaccatcct ggctaacacg gtgaaacccc gtctctaata aaaatacaaa
aaattagccg ggcgtggtgg cgggtgcctg tagtcccagc tactcgggag gctgaggcag
                                                                      180
gagaatggcg tgaactcggg aggcggagct tgcagtgagc cgagatcgcg ccactgcact
                                                                      240
                                                                      300
ccagcctggg cgacagagcg agactccgtc tcaaaaaaaa aaaaaaagaa aaaagaaaaa
```

2880 2940

3000

3060

3120

```
<210> 13026
<211> 44602
<212> DNA
<213> Homo sapiens
<400> 13026
gattgaaatt aggcccagct ttgtatgatt ctgactgaga agtctggtag gtctagggca
                                                                       60
gtattcagct agaatgcaga agacaaaagt cttttccaat aagacttcac cttgggcttt
                                                                      120
aagttgtttc tttactgaat tctgtttcag ttgaaggagt attcacagaa ggctgtggag
                                                                      180
                                                                      240
attetgegga eteaaaacca tattettace aaccacecca actegaacat ttataagtga
gctttgtttt gctttctacc tgtgggaagc tcagtcagca ttctgaggag ttatttgcat
                                                                      300
                                                                      360
ggtgataggc tcttacatag gaattgacaa gcgcctgaga gaagagcgaa tctgcctagt
                                                                      420
tgagattcca atcccctcca tgtaggccag ggtcttgcaa atagaaggta ctcaaaatgt
cattgctgag ttcagggttt ggtgagtagt aatgtagaaa ggtctgtata gcctgggcaa
                                                                      480
catagtgaga cttcatctct taaaaaaaaa tttaaaaaaag ttagccaggc gtggtggcgt
                                                                      540
                                                                      600
gtacctgtgg tcccagctgc tggggaggct gaggcaggag gatggcttgg ggccagaagt
tcgagggtgc aatgaactgt gatccacgcc actgcactcc agcctgggtg acagagtgag
                                                                      660
accetgtete aaaaaaaaa aaaaaaaaa gtetttagtt teaagggttt aagttaaata
                                                                      720
                                                                      780
aggtgaaaca aatttaaaga aaatgtcttc ctttttttaa aaaaacttct aaaagaggat
attggttaaa ttgacagttt attatttctc tggtttagta gtgactgttc tttaaaaaaa
                                                                      840
atttaaaaaa actttattga gataatttat gtattaacct attttaaatg tacagttcaa
                                                                      900
                                                                      960
tgatttttag taaatttaat tgtgactctt gagtcaaatt ttactacttt ttagaattcc
                                                                     1020
tctgaaggat agatcaaaga ttaggaaaca tctaaggtca gttagttgaa atttctttcc
tgtggcttcg taaccctatt gggatttctc ctgtgtcctt gagttctcac tagggtgggg
                                                                     1080
ctcactttgg gctcactttg gctcacattg agccatggct ttgtcatgat ttttttgtga
                                                                     1140
aactcagtgc ttcctaagat gaaaatgtgt tcatgctaag actggtttct tccttagcac
                                                                     1200
tttgtctggc ttagtggagt ttgatggcta ttacctggag agcgatccct gcctggtgtg
                                                                     1260
taataacccg gaagtaccgt tctgtgtaag taacatctgt acatggacag tcctgaggcc
                                                                     1320
                                                                     1380
aataggtcca gtgggattct tgtttccaga gatggatcat tatcacatag atgttcctct
cctaatggtt ggtcaccgat agtaggaatt tttatctgcc acatttatta ccttaaatag
                                                                     1440
aaacttggct gggtgcagtg gctcaagcct ataatcccag tactttggga ggctaagatg
                                                                     1500
ggaggatccc ctgagcccag gggttttaga ccagcctggg caagatggtg agaccccatc
                                                                     1560
tctacaaaat atttttaaa aaattaaata gaaacttcat cttgtggatg aagagtgggt
                                                                     1620
tacactgatg aatttttaaa aaggcagtac gagtcttgaa ctaataccat gttttgtgaa
                                                                     1680
ctcttgtatt tagtatatca agctgtcttc cattaaagtg gacacgcggt acaccaccac
                                                                     1740
ccagcaggtt gtgaagctca ttggcagtca caccatcagc aaagtgacag tgaaaatcgg
                                                                     1800
ggatctgaaa cggaccaaga tggtgcggac catcaacctg tattataaca accgaaccgt
                                                                     1860
gcaggccatc gtggagttga aaaacaagta cgggcttttt aggcctcggg aggggcagca
                                                                     1920
ggttgtaagg ctgaagctca gttgctgcct tcggttcctg gaatggagta aggcagcaca
                                                                     1980
                                                                     2040
tccctagagg cctaatacat cctcttggcc cctccattca tgaccaaagg acaaaagtga
                                                                     2100
aacaacagtt ctaagcatgt tgacaaagat tatttctaaa ttagcccagt ggagccatag
                                                                     2160
gggtctgtgg aagttcctca acagcctgcc tagggagggg aagctgagtg aggggacctc
caggettete atgeceattt taactattet tacacaaagg tetagaetta gataaaacet
                                                                     2220
tctgtattgg gaagtaattg tcatttcttg gattaagaca gctatgctct tgctcacagg
                                                                     2280
gcagaaagtt atttctcaag aagcttcttt agtacacaca ctcttcgatt tccacatggt
                                                                     2340
                                                                     2400
gccttttctc tgtatctgct gatactggat cttcctagcc catgtatccc agtgactgaa
ccagggcatg tcatatttag gccaagagag gcactcacat gggttatagt gttgactttc
                                                                     2460
                                                                     2520
acagagacag atcgcctttt tttgaactct caggcattgc tactgaaggg agaacacagg
ttgacactac ttgaatagta agacttacag agctgttctg cacacaggat ggaagtattg
                                                                     2580
                                                                     2640
ctgttattcc aagaggcaga ataaggctca tgtaccacag caacacgtgg ccatgaaggc
                                                                     2700
tgcctaggga ggttttctct tcttgccttg aaaagcctag tttaaccttg gtgacctgaa
                                                                     2760
agtagatget gcacattagg gtggcccatt cccctccaga ggaggtgggt ttgatttttc
                                                                     2820
attgtgtgga gtcagcagag ctactggtag actatttggg ttcagatccc agctctgcta
```

catagetetg tgacettaga gaagetgett aaceteagtt tetgtaacta taaaatggag

gtaggacccc acttccaggg tttaaggatt aaatgagtta gtatgtgtca ggtgctgaga

acagageeta gtacatagta agtacteagt aaatattage teteattgtg ttatataate acceeaaaat tattacatae etteetett atgacttgae ttageaettg gtteagaeee

tgattttctt cctctgcctc tctaaaatag cctgggttta tctttccaag gttgctgtca

	ttggcatgca					3180
ttggagtcat	ggtttccctt	gttatatact	tctgttgttt	tcctggaatt	tcaaaaggta	3240
tcatgtataa	cagcttaaag	cacttgtatg	ttctttcctt	tttttataga	gaaaaggtag	3300
tagaaaactt	ttttaaaact	ggcttcctat	tatatgccag	atttctttc	cttagagtaa	3360
ccacttaatt	gccttagaaa	aatacatggg	acagtcttcc	tctttgtctc	atcagactgt	3420
	ggttagatga					3480
	ccaagaaggt			-		3540
	ttgtggcctc					3600
	cagagaccct					3660
	gcaactgtgg					3720
	taggccaggg					3780
						3840
	acagtgtctg					3900
	gtagaaaggg					3960
	tgtgcacacg					4020
	agaagtttag					
	attgtccctt					4080
	ttcctcagag					4140
	ttactcagat					4200
	tgtaaatatg					4260
	attgagaatg					4320
	ggccttgatc					4380
	aagccttctt					4440
	gcatgaggta					4500
agtgttgatt	ggtaatgaaa	ctagagtatc	tccaggtaca	gataactttg	gatttggatg	4560
ctttgccctg	catttcttcc	acagactgct	tcatattgag	gctgctggcc	ctccctcagt	4620
attagattgt	ccagtgctag	ttcccagcct	gcataatatg	ggcaggggcg	gggggaggtt	4680
ctagatatta	aagaacagtg	aaaaaggggc	acctataggg	ttaacagaag	aacatttagc	4740
tttggagtca	gaaggacaga	aattctaatt	ccagccatac	ttttaatact	tgtgtaacct	4800
agtataagtt	acttctctca	gcattgtatt	attatatatc	acagatgtgt	attgtatttt	4860
tattagaaat	aatataccca	cctcacagga	aagattattg	tgaagaacag	agataatgta	4920
tgaaacacag	tgcctgacct	ataggaaatg	ttctggtaaa	tggttagcag	tgaggattac	4980
tcagggaaag	tcatcagcca	aaaagccttc	actcagtccc	tgtcttttcc	tgtctaggct	5040
gtatccaaca	tcaatacact	tttggacaaa	gctgatcgag	tgtatcatca	gctgatggga	5100
caccggccac	agctggagaa	cctgctctgc	aaagtgaatg	aggcagctcc	agaaaagcca	5160
caggtagtcc	cacgctgcaa	agggcatttg	gataagggct	tgggtcttga	tcagaagact	5220
gcctcctagg	tgagatcacc	ttaggtgggg	agcctgacag	cttacctctt	ggggttgcag	5280
	gaacagcagg					5340
ctgcagttgg	ctcaggagta	ttgtggagac	tgcaagaact	cttttgatga	actctccaaa	5400
atcatccagg	tagagagcgg	ggagcagctt	ttgggtgtgt	tttgtccaag	tgttactggt	5460
	cagcagtcct					5520
	tagctgaaaa					5580
	cgctggtcag					5640
	cacagataag					5700
	cttaaaaaat					5760
	gtagggtaag					5820
	cacagaccta					5880
	agagcatcca	_				5940
	cgtgtattag					6000
	tctgagtctg					6060
	gtttccttct					6120
	agttatataa					6180
	cttcttattt					6240
	cttcgcgcaa					6300
	cccggacctc					6360
	gctgtggcca					6420
	gtatcacact					6480
	agggccttat					6540
	aggaggtccg					6600
	cctagtggtt					6660
	gtgcttctga					6720
	cagggtgtag					6780
guaugagaca	cagggegeag	gegagegage	ccyyyyayca	cogadaccca	ggccccccg	0,00

11 M)01 1 - 100 M)01

taaatggcat gattggcttg tgcttttttg gttccagtac agtgtcttga ggaaactctc 6840 6900 cctgaggcct tgtgagggaa gggaagggag acacttgaac tcgagaaaga ctcacatgaa 6960 agaagcagag cagtggggcc tggagattaa gagcttggac tctggattgg aaaggctcag tttcagtatc tgataccttg tactatacgc cttggacaga ttccttaatt tctctgagtc 7020 tgtgttttcc tcatctgaaa aatactgaca gtaggctggg cacagtggct cttgcccgta 7080 atcccagcac tttggcacct gaggctggca gatcacttga ggtcaggagt tcaagaccag 7140 cctggccaac atggtaaaac ctcgtctcca ttaaaaatac aaaaataggg ccaggtgctg 7200 7260 tggctcatgc ctgtaatccc agcactttgg caggccaagg cgggtggatc acctgaggtc 7320 gggagttcaa gaccagcctg accaacatgg agaaacccca tctccactga aaatacaaaa 7380 ttagacaggt gtagtggtgc atgcctgtaa tctcagctac ttgggaggct gagacaggag aatcgcttga acctgggagg cggagattgt ggtgagtcga aatcgtgcca ttgcactcca 7440 7500 aacaggctca cacctgtaat cccagcactt tgggaggtca aggcaggcag atcacgaggt 7560 7620 caggagttga tcatgaggtc atggcaatgt ctcagcagtg ggctgcatgc ctaggaagta 7680 gcaagtgggt agttgagagc aggcacctgc caggaatgct agggcatcac aaggaacccg tgtagctgga gacagggatg cagtagggaa gactcgggag gaggcttagg tcagagggtg 7740 7800 cgagggccag atcccatagg gtcttgtggg cctctgtaag gactttgggg cttattcagt atgttgggaa gcaagagtga gtgatacggt ttgtgttttt tattaatagt gggaacattg 7860 7920 gagaagacag ggaaagagtt gtgaccaaga ctgagagtgg acgtctaggt tttggagact 7980 gtgtcacacc agacagcagg ggctctgtcg cctgggacat gggccccata aggtggtgct 8040 gctcttccct cagttagctt ctgttcatag gcaaggcggc tgtaatgggc cctttattat 8100 taccgaccac ggttttgtga agctaaagtt ctagtcttgc cccgggaagg aagtagaaaa 8160 tttggggcca ggtagcctta gacattgatt tcattttccc tgggcccctt caggtggaaa 8220 ggagtgtcac acctgattgt gaattatagg actccatttc tatttgcttc tgcagagaca 8280 8340 acccagaagc cacccaacag atgaatgacc tgattattgg caaggtctcc acagccctga 8400 agggccactg ggccaacccc gatctggtga gccggcctag caggcccagc tgtcctctct gacttcccct cacatgcctt gtgtttctca gcttcccctc ccaggtcctg cggtgactga 8460 8520 ggagggaagg agcagaacat taccccagaa tggttttccc agggaagagc ctggagcaca agggtctccg tctgtccttt gtctctgttg gagccaccta ggaccagaaa ttgtattaat 8580 8640 agttaagagt cgctggaccg gagctgaccc tcttgactca tgtctcttcc cattgccttc 8700 taggcaagta gcctgcagta tgaaatgctg ctgctgacgg attctatctc caaggaggac 8760 8820 ggcctctgca gagcagatgt gtagtgttcc tgattgtgac tctgcctttc ctgaccatcc 8880 ctagctctca gccttttcct catggctgtg aacattaaga ctcctgtggt ggttgaaaac 8940 attaccctca tgtgcctgag gatcttgcag aagctgataa aaccacctgc tcccactagc 9000 9060 aagaagaaca aggtactggg ccaagcaggg gtctaacaag gaagggcagg gcggccaccc 9120 tecteattee etggeagtgt geeetgeete eteatggtet eegetttgee ttgageeeae 9180 ctcccctgag aggctccagt gcagcctttg ccttagttca gcagatatgg gttgggattt ttgagaagga tggttcaagt aaaataaaca tgaaactgca aagcagagag caaagtggct 9240 9300 agctgtgaag gatgaactct ttccagtcat gttagataac ttgcagcccc cagaaagcat tgtgtccttc ctacccctgt gcctttgcac atgcagtgct gtgcggtgat agaaatccca 9360 9420 ggctctgaag cagacttcct gagttcaaat tccagcgctt ccatttatta gcatcatgat gttgggcaag ttgttcctta gtttccccat ctataaaatg ggaatatagt ctccaccttg 9480 aagtgttgtg aaaaataaat gacataatgc agactaagtg atcaaaacgg tgtctgccta 9540 agttaatcct taacaaatgt tagctgtggc tatctcctgc tttctttgcc tagaatgttt 9600 teetteaett tgttagetge teettagagg gteagttete taetaggeta getgtgaget 9660 ccttgattcc aggaactgga ccatcttagt aatacttttt atgtctagta tataggatgg 9720 9780 tataacatct ataatagctg cttagtgaat tattattaag tgaataaatg aaaccaagtt 9840 tttatcctaa aataactgta gctgagccac agattgactt gcttgtatca gcttttgaat 9900 tgggaggcca tagttctttc tttgggccat gcctaaggct ctgccaccaa cttgccctgg attgggcctt gggtccttct gactcctgtt ctgtctgatg ggccatccct tttgggcaac 9960 10020 agagtcctca tggcaggaag attgcttttt gagtgctaag cactagggtt atgatgtggg 10080 gaagetggae attgaagetg cetteagaaa aggeageaeg gggeaetetg etteetteee 10140 tttgatggag gaattatttc cccccagatt cccagcaact aaaatcagcc cttggttgag 10200 aagaggacac ccatccctat atgaccatcc ttgtttccac agtgggaggc aaagggagat ttttcacgga attacttgcc ctgtaaggac tgaggcctgg tgtggatgtt cacaatttgc 10260 10320 tccgtgtaac ttagcgagag cagcagttcc taaaatctgg ctcacagact ccggggtgtt 10380 cttgagactg tcaaagatct gtgaggacaa agttattttc ataattgtcc taagacacta 10440 tttgcccctg taattcttct gatgtttgtg.ctgacggtag aaaacctttg ctgctgggga

10500 gacagccagt gccttaggtt gacgaggcgg tggccctgtg cagttcttca ctgccacccg gtttcatcaa gaatatcctt gatgaaacag tacaaattaa ttttattaaa tctccactct 10560 tgggtactaa tctatttaat gctcagtgtg acaaaatgag tacacagaaa gcgcctctgc 10620 tgcaccccaa gtacagcagt tgtgctgaga aaaggcactt gtgtgagatg caagccaaac 10680 cagctgcctt tccatggatc tccgcttgtg cttgaaaaaa atggctgatg ggcaaattgt 10740 ggttgttcag gcttaggtat ttggcagatt tttcctcaaa atgaatgaag tgagctttaa gaagaactga cataactgtg taaaccagtg ttttctaaat gaccaatgca tgttatagta tcctgccggg taaaagatga aggttagtgt aatgaagtat gaaaagttta ttgatgtgat ttcagagtcc atactacagc taatctttca gaccctgtaa tttgttgagt tttggtatag tctcaatgaa aaaaatccac aactagttga aaaaggtatt aaaatattct ttccttttcc aactgtatat ctgtatgagg ccaaatgttt ttcatatact tcaaccaaaa caacctgtca tgacaattta actatagaaa ccgatatgag aatccagatg tcttataaag cagtcattaa acaattatca aaaatgtaaa acagtgccac gtctttctgt aggttatttt tgttttggaa 11220 aatataaaat ttatgttgac aaataataga tttactcttc tttttcaatg aattaacaaa 11280 tatcttcaga atttctcagt gttttatttt ttatttttt tttgagacag ggtcccattc 11340 11400 tgtcacccag gctggagtgc agtggtatga tctcggctca ctgcaaaccc tgcctcctgg gtgcaagcaa tcctcctgcc tcagccccct tagtagctgg gactacaggc atatactacc 11460 gtgcccagct aatttttttg tattttgtat cgaaatggag tttcaccata ttagccaggc 11520 11580 tggtctcgaa ctcctggact aaagcatcat ctgtctgcct tggcctccca aagtgctggg attataggcg tgagtcaccg cgcccggcca gttttagttt ttaacatgag aaatggcaat 11640 agatacaacc atgtaaagca aagctctctg gagtccgtaa taatttttga agattgtaac 11700 11760 agggttctga ggccaaacag cttgagacac gctggactgg agtgtcatct gtggctctct ctctgcaggc tgcttctggt tagtgacagt ttgcattctg gaggctgctt gtgaccctag 11820 gaaggttttt gcttaggaaa ctgcaaatca gccgtgggat aggaattagt gtaagtgcta 11880 taggattgta ggaagccagc cacagcttct gctgcacaat aaaaatgagt gaccttaagc 11940 tcaatgtgga gatgctgctg ctaaattgga tcaaaatggt ttaacaggaa cacatatttg 12000 ggcataagag atacacgtgt tgatcctcct gatcttcttg cctttgcaca tcacccctg 12060 gggcaccagt gccatgctgt tggggctatg gctcaggtgt gcccttgagc gccctcacct 12120 tgctccactt gcctcctcca ggatgtcccc gttgaggccc tcaccacggt gaagccatac 12180 tgcaatgaga tccatgccca ggctcaactg tggctcaaga gagaccccaa ggcatcctat 12240 gatgcctgga agaagtgtct tcctatcaga ggtatatctt tctcttcaag acgccgggaa 12300 gtcctgcctg cgctctgaca gccctgcctt ctgtcactct catttactta cctactaccc 12360 12420 ctgcaaccct tggccttgca gggatagatg gcaatgggaa agcccccagc aaatcagagc tccgccatct ctatttgact gagaagtatg tgtggaggtg gaaacagttc ctgagtcgtc 12480 gggggaagag gacctcccc ttggatctca aactggggca taacaactgg ctgcgacaag 12540 tgagtggcca cttctggact cttcaccccc tgcgcccctg accccagact ctgagcaata 12600 tgtttctgcc cctcaccatg tgtctgcact gccatctctt ctttctcttt gctcttcttg 12720 cttcctttca aatagggagt gagtacaggt tcttggttgt agctgttggg ctagcatggt 12780 ggactggccg aaacagaact tcctctgctt atcttaacac gctccttgtg ctttctgctt 12840 tectecetga ceatagtece titteteett ceatititieg tatettetge tigteetitet ctccctcctc tctctagcta aagtaattct atgttaggta atccatttgt ccattgatat 12900 12960 ataaaataag aaatacttgg tttacattta aatgaaagta ttcagcatat aagtgtcccc 13020 aaaaaagaat gatcagcatc tttgctaagg aagatccctt tttcctactt cacttattgt 13080 aggtatgttc ttcacatctc ctgatggaga agtctccagg cagaagcagg gctctttcac 13140 agcccctttc cccatctaaa acagtagagt cttgtgttag ctggtgattt ttacctctta acattttcct agagaggtgc ccagaagacc tctcctagat gggtggcagt tgactgccct 13200 gctgggggcc tggtgaggca gggcatcctc tgagtctacg accccttctc tcccctgtcc 13260 tgcaggtgct tttcactcca gcaacgcagg ccgcacggca ggcagcctgt accattgtgg 13320 13380 aagctctagc caccattccc agccgcaagc agcaggtcct ggacctgctt accaggtacc 13440 atttgggagt gggatgagga gcgtggttag acttgctcta gagccttttc atcttccccg 13500 gggaatccat ggatcagggt aatgagaggc acacctctgg gtagaagacc ccagaaacaa caaagtgtta aaaagctgac ttttagtgat ggtagtggtg gtggtcgttg tggtgagggt 13560 gttagcagca gcagcagcta atatttgaga tcttatgcag ctaatattga tcgagattga 13620 gtgcataaat gcttggcatg cattatctta tttaattctc tcatagcaat cagtgccaaa 13680 atatgaatgc ttagattctg tggcattcac tccctgcagt gtgctctgaa tgcttcctag 13740 13800 atgtgggaaa ttcccatgtg ggaattggag ctgtcttgga tgctgttcct ccaccctcta ggaagcagga gagacagaca gcagaagata ggaaagattg ggaggagaaa ggggagcctt 13860 ggagctgttc gaaatgctag agttcttgac tagagtgccc tgtccctctt ggtggcagtt 13920 acctggatga gctgagcata gctggggagt gtgcagctga gtacctggct ctctaccaga 13980 ageteateae ttetgegeae tggaaagtet acttggeage teggggagte etaceetatg 14040 tgggcaacct catcaccaag gtatcctacc ctattgccca agagagcccc ttccctaatt

14160 cccccttgta ccttgatgta aactctacta tggtgttttg tttgtttgtt tttgctgaga agaaatattt gttgaaggtg tttggaaata tttttatgac ttcattgtat ttattatgta gctgtagcaa actcttggga gcatttggac tgtttacagt ttttaagcaa tcccttacca gcgctgtgac tgttggcttc ctggaaagga gttctgcaag ggttcgatta agaagatgta actacagagt gtctggtgct gcaagctcct gggacagtgg tggaggtaac tggtatcctt ggcagtgata tcacactgac tgcacttgtc atcctgttta ggaaatagct cgtctgctgg ccctggagga ggctaccctg agtaccgatc tgcagcaggg ttatgccctt aaaagtctca 14520 caggtaaaga gccacctgga ccttccttta gggcatcctg aatctgttta gggacaaccc ttagttcctt gggtgctggg gttgactctc ttctctctgg tactgacctt agtgcagatt taagctctgc atttttttc tgtattgata cgtttatgat tttgagaccc tgtttgctat tgactgtttc cgcttgttga acacctgctc tgtgccatgc acaaagatag attttccctg ctttttgagt tgctcataat cttttgagac acagactgtc cttatgtttt catccagagc teteaeagea acatttteet gteteeaeag geettetete eteetttgtt gaggtggaat ccatcaaaag acattttaaa agtcgcttgg tgggtactgt gctgaatgga tacctgtgct tgcggaaget ggtggtgcag aggaccaage tgatcgatga gacgcaggac atgctgctgg 15000 agatgctgga ggacatgacc acaggtagca ctgcccagtg gcctggagcc taaggcactg 15060 tcccttctgg ggctgccgag gtgcattcga ccaatttccc ccagttccac agatccagag 15120 gaggggtggc aaacatctcc ctgcattcaa agggagactc atttcttgac aaagtgttgg 15180 ctcttggaat tttaaattct agagctgggc tcagtcactt tggatttttc atgttgagct 15240 tatagagtgg tgcaaggtca aaggctctct cattggtgtc ttctatcagt ctggaaaatt 15300 ctcagccatt gtctctttaa tcccctctgc tgtattctct ttcttttcct tgtgaaactc 15360 cattttcact ctgtcatcca tatctctcca tctctcataa tgttcatctc attgtgtatt 15420 tatgctgcat tttttgacaat ttgttcaatt cagtttttct tcactgtgtg caaatgttta 15480 15540 atctacctgt tgaattcttg tggttctaga ttttatggtc tcttttttat ttttcatttt 15600 ttgagaccaa gtttcactct tgttgcccag gctggagtgc agtgacgcga tcttggctca ccgcaacctc tgcctccagg attcaagcga ttcgcctgcc tcagccttac tgagtagctg 15660 15720 ggattacagg catgcaccac cacgcccagc taattttgta tttttagtag agacgggatt 15780 tctccatttt ggtcaggctg gtctcgaact cccgacccca gatgatccgc ctgcctcggc ctcccaaagt gctgggatta caggtgtgag gtctcttttt aaaaattcac atttccctcc 15840 tttatatgat ctataagcat attaaacatt tgtgtctgat aattctaaaa tttgagatat ttacatgcct gattctgcag tttgttattt tggctcttgc tgatgatacc ttaaagtctt 15960 gttgtgtttt atgagttttg actgtgacct catatttttt agctttatct gtggaaattc 16020 tttaggactg ggccaaagat gggtttctcc agaggaggta aagaactgct tctgtgaggc 16080 agtgcagggt actgctgtcc cagttctgag cctcaggatt ttcagacctc ctaggtagtg 16140 agaggtttga gccgcaaacc cctataaggg gacagctcat tacaagtttt cagaggagat 16200 ttttccctgc cacttgatgg taaagtttaa ggaaagtcaa tttcctcagt tatttggttg 16260 ggggaaaggg atagctgatc tctgcaccaa gggtgtagct ctttggggta ctagatttgt 16320 atttgtgggg catggggttg ggggttcctg ctagactctt tgcctcagtg gattcggggc 16380 tttatccacc tctcaaatct gggcagggca tggaaaccaa agctcaacgc aaaaactgac 16440 tegtgttttg cttateteee tggetteeeg atttetetta gtttatgget tttggetgtt 16500 16560 ctgtgttagt gtggcagttc actgatggat ttttattcaa cactttaaat tgtttttgag tggtggagag tgaggagtag gtcagggaac ctcgtttgcc ttattgccca aaatggaact 16620 ctttctgatg ccattttcat cgtgccatac tgagctggtt tgtgacttcg tcagggacct 16680 ttaccttttt ttttaatttt aattcagacc cacccagtaa tgcaacagtg ggactttttt 16740 16800 tttttcccga agtttcactc tgtcacccag gctggggtac agtggtgtga tcgaggctca ctgtaacctc cgccttctgg gctcaaacca tcctcccacc tcagcctcct gagtagctgg 16860 gactataggc gtgtgccacc acgcccagct aattttgtat tttttgtaga gatggcattt 16920 cgccacattg cctagcctgg tctccagctt ttgagctcaa agtgctcaca agaccttatt 16980 ttttaaaagac catattttct caccttcatg ttactttaag ttgtgttttt tcgcttatag 17040 17100 aggacagtct acctaatctt ttagaatgaa gctaaaaact aactgtaact tccttttgat ttgactggaa cacaggatta tttgacattt tctgagtgcc tgttttgggc aaggagatgc 17160 tagttaaata aggcacagtc cctctccttg aggaggttat atcctgagag agagcaagac 17220 17280 atgtacacag ccaaccatga tgaagtgtgt ggacttgggt gttatgggtt tcaaactgaa tgtggtctga ggataaaatc aatcagcatc aaatttccaa tttgaactat tgatattgcc 17340 17400 atgtagggca tttaaagact taccaggcag aaataatttg tcagtgatgg tacttcagtt 17460 agaattetea ttteacette catgggagag getettteet aacttggeeg etttgattte tggcaggtac agaatcagaa accaaggcct tcatggctgt gtgcattgag acagccaagc 17520 17580 gctacaatct ggatgactac cggaccccgg tgttcatctt cgagaggctc tgcagcatca 17640 tttatcctgt aagcagtgcg gtgcttccca tggctctcga gtgtcagcac agcccacttt gccatgaagc ctcttggtga ttcattaaag ttatggggaa ttgtaccagc tgtgggccac 17700 17760 ttagtcatta gtgaaagaag atccaccgcc ataaaagtga agcaacctca taattttcct

cttgctaacg atgggacatt taatgacctt ccttggtctt atttcctaga ttcaagtaaa 17820 17880 gaatcatgtt tttttaaaaa ctaggtctaa cctccattac caaaatccca ttgcatatca atccaacata ctgtggaaga agcggtattg agcttgaata taaagatatt tttactctct 17940 tccttcttta gctgccctgt attttgtgca cacatgcagc gtgtgttttt ttccctagcc 18000 tgaactgtgt agaagcacag tatcatccag agaaccette etgetattga ggaaagatga acactagtat catgagctag caatgagagc tcattggggg tgtgtacctg agtgtcatgt 18120 cccatagaga agcccttttc ttgacttcag ggtcatcagt gacaaagtcc tctggcccca aattggttag catcacatga gaccagcagg aggaggaagg aaagtccctc ctcgcacccc ttccccgatt ttttaatata tctctcatat gtcactcctt gtctgcttgt tttgttaggc tttatctcct aatccaccct ggggtttcag ggtagatgct tgatatttta gtctacttga gtttgtttag atttttggaa gtacctctga gtttcctgtc ctttgtatct ttaaatgttt ggggggcttg ctgagtttgg tgtgttttcc tcgagtgtcc atggaacaag gtagcatggt ataaatctcc acctctgcca tcccttctga tgcacccttc tgtctgtcct ccaggaggag aatgaagtca ctgagttctt tgtgaccctg gagaaggatc cccaacaaga agacttctta cagggcagga tgcctgggaa cccgtatagc agcaatgagc caggcatcgg gccgctgatg agggatataa agaacaagat ttgccaggac tgtgacttag tggccctcct ggaagatgac agtggcatgg aggtaatgac cataggacag tgctgcccac gtttacgatt aggggcttcc 18840 tcctaggcta accaaatcca ggtgcttctt cctagtagct gattaacttg gggcaggtgg ccttcagttt ctccactctg taagttgggg ttaatgattc ccacctttct acctcaccta 18900 gtgctaaggt taataacctg taaagggctc tgcccagtgc ctggcaggaa gtaagcatat 18960 tgttaatggc tgttggttgt agtggtggtg ggtatttatt atcgttattg cctctggcag 19020 agacttctcg gtgagtctga gttacctgag ccccctaaat attggcgttt taccccctgt gcaggtttat gtccccgtgt cagttacttt ctggcagacc gttgagggtc tgacattttt acatagtgaa aagccttttc tggtgctgag cctgcaggag aaggtccccg gtgggtgtgt ctaagctgga gcctgtgtgt gggttaggga cgttagcagc ccctgaaatt gtgcacaaaa ttctgtgtgt ttttcatacg tgcggatttt ttaagagtgg gagagttgat aggtccatga 19320 catataaaaa ttgtgaatta tcaaccattg ccgtaaggtg ccctttgctc ttggatttta cttgtcttac aattatttgg aacaacagct tcacctgctt ttctgttcag cttctagtga acaataaaat cattagtttg gaccttcctg tggctgaagt ttacaagaaa gtctggtgta ccacgaatga ggtatgtgcc tgctttctcg tttggaggtg tggtttcact tttctgactt atgcagactt gtaccagcag gagccattgt tcatcatcac ttacctggct tgtagcagct ctctaaggct ttactgtccc tgtttggggt tgtgtggaga aaaccaatct tgttttcctt tggaggcatc tgactaatgg agggacattt aatgaccttc atgaagcttc aggaaagcaa aagcattttg ctgggctgtg caagttgtca aaccccaaga actgaaagcc agggggtgtc gaaggagget etgtgetggg aatgettget gtettgttee etteagtatg gacacetete agctgagatt agttctcagc ttttatgggc ctgctcgctt agtagaacat ttttccagta 19920 gctgtgtcaa ggagcatcat ttctgtttta ctagttgggg aatggaggct caaacaggca gttattcttg aggaggggaa aagggaaatg aaggaagtcc agcgctctgg gccttttggc 20040 20100 caccacgagt gatgctgttt gtccacttat ggaagtatta gatggtcccc ttcacctttc cctcctttct tactctctgt tccttccatt cctctcttcc tgtttctttt tcttccctc 20160 cattletete tecceetgee attletteee tectettgtt tetattggga ggagaggtet 20220 ttagcacatg aatcagataa gtaacttaat tacagcaaac tagtgtagca gggatgcaca 20280 gcaaactttt ctagacttgg tcccaaatac ttctgtagag tttgagaaac taaattggca gtatactatt tgtagatttt gatcttcaat ttgttacata tttccgcctc tctcctttct tttctcccac tgggctggga atcctgctta ctgttgactg ttggtctact gccagtgggg tcgttgttgc actgttggct gagggacagg cagagaactg tcccagccag tacctcttgt 20520 tacagacatt gtagcatcaa aacagaacaa tacagattta atccctgatg catataaaaa 20580 attaagacca agcttctgtg ggcactctgg taaatggtgg tagtgaaccc acagaatgca 20640 20700 ccagggtatc tcccttgaat ggtgaagcaa gatagaagtt gagaatcatt tgcccctcac 20760 attgatgtgc ttaatccagt tagaaggttt tctggcaaag ttctgagttt gtgatagcct 20820 atgttctggg acttcagctt cccttctcta ccttgccctc catttccctg ataagcagcc tacctctgta gctactgact agaactagaa cctgctctgt gttcagtgtc tgtggtggtt 20940 ctctctgagg aattctcact gggcttctat agccggaaac acttctgcaa ctggcctttc 21000 tggcaggttg tcttcctcca gggtgtcctg tcctgaagct cagcatagac ttggaggcag gctgcttgaa ttagcgtgct accaaatccc ccactggatt tcatcagtgg ttactttgag 21060 ctccaatttc tagtctgcaa aatgagaata atattaatat atgtgctcag tgccagacat acagggaact ttccttattc tccaatttag tgaagttgct gtaattttgt catttataaa agacttgatt cttatcattc tagtcagatt gtgggtttag cttaaagaat tgtggatgaa cccctcctt gtatggttat ataaagacgt ctgaatctct gtaggtaaag attgatgtac tetettttee tgttttgatt eeegaggett gagteaaage tetttgattt aaatggeett gtttgtcctg ggtagtagtc cctattgatt ggagacagtt tctactcctg aggaaggtcc

21480 aggettggaa ttagacetee gettataget tggtaacett gaacaagetg tgtaacetta tgtaaaagga tcatagaaag tacttaatta gcataggacc tggcacagag taaaacattc 21540 aataaatatt tgttagatta ttacatagtg ttctaatgaa attgaaggag atagtgtctt 21600 taaaatgttt catacaatgt ctagcttcta gtagacacaa aataaaatta gcattctttc 21660 ccctaagtga attgctgtgc atttggattc tagatgttgt ggttgagact ttgtagaaaa 21720 atagaggctc tccacattgc tggggcttta agcaagacca agtatggagt cctttgcatt tgtctgggcc tgtttttaag tacctttctc caactttctc tgctcaggga gagcccatga ggattgttta tcgtatgcgg gggctgctgg gcgatgccac agaggagttc attgagtccc tggactctac tacaggtaga tcatggcact gcacattgga tctgaggctt gggactcatg ageggeteae gteecaggae ttaggggeat teteagttge ttetetettg tacetetgea tcagaattgt ggggagattg tttcttcaat tgaggaaaaa aagaggtgtc tgtggcatga tgcagatacc actgagtgtt caaaaaaaaa aaaaagaata ccagcaaact tttagaggaa aatgcaatga acagtaaact ggagttcaga tttattttta actccctctc cccccactcc 22200 attgatggta ttggtgctca tactttgaca tttgagtaag taattttaat tgacttgaaa 22260 ctttaaaaaa gctcctactg agagtgggac agtttaatat catccatcat tgaccccttt 22320 22380 tattggccgt gtctttattg gagatacgga aaagggctgt cagccatcag ccaggaatag ggctgtctta tcctggccta ttttattccc atcttcacct taccctccat ttctgcttgg 22440 cttcccttct cccctagatg aagaagaaga tgaagaagaa gtgtataaaa tggctggtgt 22500 22560 gatggcccag tgtgggggcc tggaatgcat gcttaacaga ctcgcaggga tcagagattt 22620 caagcaggga cgccaccttc taacagtgag ttgggggcag caagttgtgg gggccagcct ttctgcactg ggagaggccc ctgtggaaag aagctatggc cactgtgtca ttttacccta 22680 22740 gagggcagca tggtgccgtg gagcagtgcg agccagtgaa ggacctggca gttaggacta 22800 cattettagg cacacetttt cocgtectge tggcccaett cccttetcca atacetetet atagagecag catetgactg tettteecca aatagetgea ettgtgttaa etattateat 22860 tgttgttgtt tttaaaatgg attttgtaat gtaactcatt tcttgcattg tagggttttg 22920 tttgggtatt catccaacta atctccttag tgaggattag agcattccag agaggcacca 22980 caaatactac actgttattt tcactactcc ccacccccac tcccccaggg tttatgagaa 23100 tatgtattat tgttattatt gtgcctttgt tttaaatgac ctatgtggtt ctgagctctc 23160 acaggccacg agetttggga teattttett tactattagt ttagggtetg agttgatget gggatttccc ccaagacaac aaacagagca tcacctcttc cattaggaac tgctgtcatt gccgttgtat tagagatggt agagatatat cccgccattg gagctaccag cctaatgtga gageceagee ateteaceat gteeeetgaa gageegette teeeteetgt cetetteatt 23400 tcaggaggag cccctgctga tggtgtagac cctgcttaga catccctttc ctactggccc 23460 ccatgtccta cactctcatg tggcctcatg ggttttgact ggcttttctt gtcaggtgct actgaaattg ttcagttact gcgtgaaggt gaaagtcaac cggcagcaac tggtcaaact ggaaatgaac accttgaacg tcatgctggg gaccctaaac ctggtaagga gcatggactg 23640 caggtgaaga agagtgggcc ttggaagtct gggtgtgaaa gacctctcag ttctgggctc 23700 agatgaaatg gactcacggc ttcttcaagc ccttcatctc tctggctgac tggtgcagag gcttgggtca ttcagctgcc cttctcctct ggctggctca cctcctgccc ccatgctgct gccatggcac tcaagagctt ccttgctcct ttcctgagtt cagatcagag ataagaggaa ggcagtccct taaacagtct agactacaca ccagtgggaa agaagtgccc ctctccttgg 23880 23940 ggcagcaaag ctgcctgtca tcaaaagctc acacgcttgt ctccctctca gaacatgcat 24000 atacacgcac atacatacac acggtcatac acacatggtc tctggggagt aaggctgtga 24060 gggcatcctt gagagcaatt gtcctcagca gttagtggct gtggtcttat tctgagagtg 24120 actgagtctc cttctcctac aggcccttgt agctgaacaa gaaagcaagg acagtggggg tgcagctgtg gctgagcagg tgcttagcat catggagatc attctagatg agtccaatgc 24180 tgagcccctg agtgaggaca aggtgagtgg ggctcggccc ctccatctgc aggcactgag 24240 agcctgcact gtctcattgc ccacaacagg cctgtttgtg tctggcttag cccacctgag 24300 24360 aatggcggag cctgcttaag cattggaatg ttaggactca actaatgatg acataattgt 24420 atcgaaatgt gaaatctttg gattcagagc aagcacaatt gctaaggata gtctttcact 24480 caaaagctgc tcgttaatgg aatcctggca tgtctcagtt gatagacaga ggctttagtc caacctttca tttcatagtt gaggaattga atagcccact tcatttccct ggacttggca 24540 24600 tttcctcagc tgtggtacat agttggttac tggtggaatc aggcctagaa cccagatctc caactcccag aatttctctc cacctgctat gcctgtaatt tcctccattc ttattggtgc 24660 24720 taatgatttg gctagagcta tgaccaagtg aatgtccagc agcctgcatt cttttacagg 24780 gagggaagat tgtattggta tattttgacc acctgagaca attaacagca ctgtcacaga aatttagaaa cgaatttctc aagtgaaact ccgactgttt gttattcccc aagaagtgcc 24840 24900 gagacatagt tettetaggg gtatteetga tgactetgat ggaagtggtg aettttgggg 24960 ctcagatgtt ggctgcagcc acagtcctga ctgcattaat ggcatgttca ccctcttttc tgttgcaggg caacctcctc ctgacaggtg acaaggatca actggtgatg ctcttggacc 25020 25080 agatcaacag cacctttgtt cgctccaacc ccagtgtgct ccagggcctg cttcgcatca

tcccgtacct ttcctttgga gaggtggaga aaatgcagat cttggtggag cgattcaaac 25200 catactgcaa ctttgataag tatgttactt tgatttcata tagtgaaatg agagtctcca ctaaaacgcc gaactaggtc tgtgagatga ggaagaatcc tctgaatacc tattagattt 25260 ttgtgtcctc gttctggctt ttaaggagct cagtctagtt gggaagtgaa tagttaaaat 25320 atactgtatt agagtagcaa ttggctagtc agagaaggca aagtggttgg tgagatggga 25380 ggaatatgac gagatggagc cacgtgtgcg caaatgtgag tgcaagagaa ggctgtgagc 25500 gtgggagaca tagcaggtaa acagggagag tggcaggagc cggggcagat aggtctttgt gtcacgttag ggaatttagc cttgatcttc tataggctgt tgacagttgt taaccaagag ggtgacatga ctgggttttg tcccgccttt cacaccctca aactctgctc tttcctccta 25620 gatatgatga agatcacagt ggtgatgata aagtcttcct ggactgcttc tgtaaaatag 25680 ctgctggcat caagaacaac agcaatgggc accagctgaa ggatctgatt ctccagaagg 25740 25800 ggatcaccca gaatgcactt gactacatga aaaagcacat ccctagcgcc aagaagtatg aagccctccc gcagcggggc tgctttgcct tcgctttgcc ctttcctttt ccttctccat 25860 cagcatcttg gcataaagct tcacgtgtgc cccttgccct ccttggggcc tcccaaccgc 25920 ttctggaaac tatgtgggtg accattcaac cactgcagag tcctcggggc ttgccggaaa 25980 aggatggcaa ctttttggtt tctacttaga gtactcactt ctttctggct tttcagctga 26040 gctgggtggt tctatgtgat tctttatgac actcggagag ggtcacggtt aatcatgccc 26100 tgggggttta aacaagccag agtcaacaac tggtttctag gtagcctttg cttccctggc 26160 ctgctaataa gccttccttt gctttgcagt ttggatgccg acatctggaa aaagtttttg 26220 26280 tctcgcccag ccttgccatt tatcctaagg ctgcttcggg gcctggccat ccagcaccct ggcacccagg tgggtagcca ggacaggtag tgtgagggta caggggtaca agtataacta 26340 26400 ccctagttta ccttgagaca tgacttaccc taatatatga gacttctaga gtagaagtga gcctcagaag tcatctactt catctatgtg tgctgagaga agtaagttgt atttgtgatt 26460 tcctcattca actcattctt aagtggggct tcattgtcta atgggtcacc tgtgcaactg 26520 ttgaactgtg agggattggc tgaccagaga gtaaaacact tgggtgtctg gccacagtca 26580 ctaggacact tatattacca tcacctctat cttctctgcc tcaagcagct gaaccccttg 26640 ttcttaggga gtcccaccca ttccactccg cagctcattc ctgatttctc cccacagggc 26700 tgagcgttaa cccctcacaa atccaatcct aactggccct ggatagatgg ccagggctgg 26760 gtttttttt taaatcaaag ttttaatttg gagattatta taaattcaca tgcagttgtt 26820 aagaaacaat acagagaaat catgtgggtc ctttccccac tctcccccag tggtaacatc 26880 26940 atgtggaacc cgagcacaca ccacaaccag gatatagaca tcagtgccat caggacgcag 27000 ggcaggttca tcagcacaag ggtccctctt gttggccttt tgtagccaca tctatcttcc 27060 cctgctcccc tgccacaagc ccctggcacc caccgatgtg ttctccattt ctgtaacttt ggcatttcaa gaatgttgta taaatgcagt tgtacagaat gtaacctttt gggattgtct 27120 ttttttttt tctcagcatg atttctgga gtttcatcca ggtttgttta actgttcacc cattaaagga cacctggatt gttgccagtt tttggctgtt atttataaag ctgccatgaa 27300 cacttgtgtg caggtttttg tgtgaatata agttttcatt tttctgggat aaatgcccaa 27360 gagtgcagtt gctgcgttgt atagtagttg catattttgt ttataagaag ctgccaaact 27420 gttctctaga gtagctacag cattttacat tttacatttc accggaaatg tatggctgct ccagtttctc tgcgtcttag ccagcatttg gtgactattt ttagtttgaa ctgtttggaa 27480 gatgtgcagt gattccgtgt ggttctgcgt tttcctagtg gttcatgatg ttgaacgtct 27540 27600 tttcatgtgc cctgtgtatc ttcagtgaaa tgtctgttca tgtcttttgc ccaatttcta 27660 actggattgt ttgtttttta atgttgagtt ttgagagtcc tcagcattgc gttttttctg 27720 tttgtagtgt tctgcattga aaatagttcc actgtctcat ttggtaatct gtttcggtaa ctcattccaa aaacatggta acttgagtac agtaaagatt cttcactgtg tctcactgaa atcccttttc taaacttctg ttcaactcag tggagtcata attgtatata tttgtggaga tactttttcc tgcataggaa tttcacatgt attgttttcc atatccttgt aacatctctc 27900 ttttgtatat ggataaatca aggaacacgg ttgtgatttg gccaaaggca acacaatgag 27960 28020 tttggaactc aaagtcagct gatttccagg cttattcttt tttttttt tgagatgaag 28080 ttttgctctt gtcacccagg ctggagtgca gtggcatggt ctcggctcac tgcaacctct 28140 gcctcccggg ttcaagcgat tctcctgtct cagcctcccg agtagctgga actaaaggca cctgccacca cacctggcca attttttgta tttttagtag actcggggtt tcaccatgtt 28200 ggccaggctg gtctccaact cctgacctca ggtgatccgc tcccctcagc ctcccaaagt 28260 gctgggatta cagacgtgag ccattgtgtc tggccatcca gatttattct tagttaccaa 28320 28380 attgaattac tttctttaga ataaggcttt atctagttag atacttggca tttatgctat 28440 ggccattcat ttttcttgca acacatcttg ttgtgtagct ggtcctgtgt tagactgagg 28500 agacagetgt egeetgtgee tgttgggage ttaetgtetg gtggaagata gagecaaata cagagtagta actaaacagc gagatagatg cagtgtggaa ggggcctcag gaaataggat 28560 28620 tgttaagtag agggcatggc acctgcaaag gttcagaggc caaagagagc ttaaagcctt 28680 ccaagaattg aaagcagctg cagtcggagg cgaggcatgg caagagctgc cgatggagat ccaagcaggg gaaaggcatg ttctttctcc cagaagagga gtgtgggttt tctcctgagg 28740

28800 gcagtgccct ggccatatta cagagagtga attgaaggga ggtgagattg gaggtaggaa gaacagttga caggctttta tcgtaattga agtgagagaa atggcagctt aaactagttc 28860 atggatagat tcaacagaga ttgagctggg aggaagaata aatgggattt ggagagtgac 28920 cgaacgtgag aagctaagaa gctgaatgaa tcaagaacct gctcagtttc tggaatgagt 28980 gatgaggtga atggtggtgc cactgagatg gagaagatca gaggtttgcg agtaaggtgg 29040 aggagagttc attagactat gctatgaatg tatggtctgt cctattaata actagaatgt 29100 29160 aagttaaatg agagcaaggt ctttgttttc ccagcaccga aaacacacat gtgcaagcat gcacacacag taaacagcca gaatgttgag tttggggtac ctgtggaaaa gctcagtagg 29220 agttgaaata tgggctcagc atttaggagc atgagacatg agggaatagg taatttcgct gagacacaga ttggaagtgg acttgctgtg agaacagatt tatgagctac tgagtgatct 29340 gctggctgtg ttattttcag cctgttgtct catatgtaat cattgctgtc aagtcacttg 29400 29460 tgacaggttg gtgaggattt cagggatgtg gtaatatttc tcagtgagct cacctggagt gctttttcca actacacctg tctttagcct tctgatgttc tccacccccg tttatcacat 29520 29580 agegetatac gtagtgactt ccagettttt caggeacaga ggtttcttgt taatatettt 29640 tttgttgtta aagtttttca tgtccatacc tgcttgtagt cattgcacct ctagtatccc 29700 tagcctgaga aaactgtgct cctaggtttg gtggacccag gggctcccgt ggagaactca 29760 gggcaggtcc ttaggagaac gtccagtgcc tgctctggct gctggttcac cactcagtac 29820 acatcaggtg ttgctgcttg tcttaccaga atacggggat cttctcctgg cccctttcca catectetgt gatggatget ttgcatatgt tatetagttt ttagtcatea cageageeet 29880 29940 tgcactatcc ccattttata gatggaaata ctgagcttag agcataggaa ttggtcagag gcagtggcag agccaaaccc tcttccattt gtctgtgtct gtcaaagtgt ggaatcaaag 30000 30060 gacctgattg cagctgagca ggtgacatga gatggtgcat gctggttgag tttctaaacc 30120 tttaagctcc cgggaagaag gtttgtctac ataattggag gcatgtgtct ctctggtctc ttactggcag gttctgattg gaactgattc catcccgaac ctgcataagc tggagcaggt 30180 gtccagtgat gagggcattg ggaccttggc agagaacctg ctggaagccc tgcgggaaca 30240 30300 ccctgacgta aacaagaaga ttgacgcagc ccgcagggag acccgggcag agaagaagcg 30360 catggccatg gcaatgaggc agaaggccct gggcaccctg ggcatgacgg taaagctacc 30420 acctagagtc cccatatttc tgcccacact gttgatgagg aggtggccat gggacagccc 30480 tggggttggc catggggaaa gagaaggctg gacagagtag gaggaaggaa ctaggtgtgt teggeeetet eagaggtgga actaetateg ttetateata eagatgagae teggagtaag 30540 30600 tgacttacga agtttaccaa aacagtaaac cagtgataat agccattaag tttattgagg 30660 acttatttaa gccctcaagt agttctagga ggttgatatt gttataccca ttttccagat 30720 gaagtaactg aaactgagag gtgaagtaaa taggccaagg cacataacta ataagtggtt 30780 gacacaaagg gttctgtgct cttctaactg tcccaccttg gaggaagcag agtcctacaa gctccttttc caaagcacag acttgagtgt cagcagttga aaagctcacc tgggaacagt 30840 gaatgaatca tagtgcaaca accettggaa getgagaett ggcattgetg geacgaagat 30900 30960 gctggcatga agaaaggggg cttttctgat ggcaggtggc accttgccag ggctccagct 31020 ggatgacttc ctttgcttca gtggttcctg taggaagaga gaatagcaga agggcctggg 31080 tctttatcct tattagaaga cagctcaagg gctttcctct catgcacctg tccttttagt 31140 ggaggtagaa ggttagccct gttcctgagc atctccaagc tagggtggga gagggtgtgt ggaaatcccc ttgacatgcc accggggttc ccctacagac aaatgaaaag ggccaggtcg 31200 31260 tgaccaagac agcactcctg aagcagatgg aagagctgat cgaggagcct ggcctcacgt gctgcatctg cagggaggga tacaagttcc aggtacagct gctgggccta cggtcggtcc 31320 tgagggccca gcctgacccc ttgttctagg tagcatcccc ctcctccagg ccattttgtt 31380 31440 cttagctagg caagatcaag gcctgcatct taggagatta acaaaaggac cagctgtcct ctttagaggc aggaaggcga gctcatccga actttagact ttgttatctt tatcatcatc 31500 atgacaaatg ctgctcattg gattcttcct atatgtgagg cctcatgctc agagctttgt 31560 gtaaactgga taattttatt taaacctgta aaaagtctca acttgtggtt aagcaaacaa 31620 aggtcacatg gcagagccag aattccagcc taggcttctc agactccaga cctgggcttt 31680 31740 taaaaacata ccatgctgcc tccattcagg gtaactgggg agaaaatcag aactttctag 31800 ctgaaggctc aaaggtggcc tcttctttcc agctggaact tactgcttag aatacaggct 31860 gtgaaagggc aggtgcctgg gccacagggc tcgttagtcc tgcgtaatgc aggctcttca 31920 gagctgccca gcaggttttg aaaagcaagg gaatatcaag aagtcacttc tgcattttca 31980 32040 gacagatgaa gcacaaagta aagaaagatg gccgaggctt gcttatgtgt atgcctctgc 32100 atctgcaccg catccccttc ttgctggttg ctcccataat ccttgtttca ctagggctgc ggccagccaa gtgcttcacc aacagactga ggggctggcc ttacctgctc ttctgaactt 32160 32220 ccctagtgag agcaacctga aacccaaggc attgcccaag aagggcggca gttcccctct attctgcttc tcctgagcct gacttggagt ttctcctccc ctctccttat gttgtcgtct 32280 ttgcagccca caaaggtcct gggcatttat accttcacga agcgggtagc cttggaggag 32340 atggagaata agccccggaa acagcagggc tacagcaccg tgtcccactt caacattgtg 32400

```
cactacgact gccatctggc tgccgtcagg taggccctgg ctcttgcgga atggctcctt
cagtaggcct gcctgtgggc ctggagcggg tgggactgcc atcctcgtgg ttttaaatct
gctccttagt ctctggagag tagggtgttc tgcctgacac catataggtc cccaagcagt
tatttgaatg ataggaaaat atgctttggc ctgggcccaa ggctagtgag aacagccctg
                                                                    32700
cctacctgag tcagcaaagc cagtgtgtac cacattgagg ctacaaatag caaattctct
tegeagggte aggageetgg geegactgae ttettagtgt tggeatgeec ceaececeae
                                                                    32760
ccccgcccc ccgcccaggt gcctggttgc cacgttaatg ccagcagtcg cttgtccctg
                                                                    32820
ctctcctccc tatccaggtt ggctcgaggc cgggaagagt gggagagtgc cgccttgcag
                                                                    32880
aatgccaaca ccaagtgcaa cgggctcctt ccggtctggg gacctcatgt ccctgaatca
                                                                    32940
gctttttgcca cttgcttggc aaggtgagtg ttgagtattt ttcatggtgg aatggagggg
                                                                    33000
                                                                    33060
atttgcaggg gatgggacaa gacccgctat cagcccaatc ccctggtgac accatttcct
                                                                    33120
gttaccttcc ttgggaatcc atgtctgtct gcttgctgac tggggagctg tccagagcat
acagggtggg ggatggaggc ttactcaagg ggtgacctga catggcccac cacagggtgg
gaggaaccag caccettage ttecagggta ceagatgaaa tttetgggte tteactatte
                                                                    33300
ctttgctgat cttatgacag aagatgtggg gccaacttgg tccttgaggc cagaatttct
gagttcactt ctacagtgtg tggctctgag gtttaaatac gaaagtggct tagtggcagg
                                                                    33360
                                                                    33420
ggggatgttg ggctccttag aaggccttcc tggtcctaaa aacccagata agaatagcta
                                                                    33480
aagcatctgt gaggtcctca tgtcttgctg atgccttgtg gagtggtgcc ccaccccaag
tcctatttca aagctcaggg ataaaaagat gcctgtcata aaacaggcag ctggcagtga
                                                                    33540
caatggagag catgttgaaa tgcttaacct ctattctttt gttttgagac agggttttgc
                                                                    33600
                                                                    33660
tettgteace caggetggag tgcagtggcg tgatettgge teactgcage etcegeetee
                                                                    33720
caggttaaag cgattctccc gcctcagcct cccaagtagc tggaattaca ggtgcctgcc
accatgccca gctaattttt gtatttttag tagagacggg gttttgccat gttggccagg
                                                                    33780
                                                                    33840
ctggtctgga actcctgacc tcaggtgatc cacctgcctc ggcctctcaa agtgctggga
ttacacgtgt gagccactgt gcccggccag gcatgtattc ttgtatacat tgtacagatg
                                                                    33900
                                                                    33960
agatgcagag tttgagcaac ttgctcgagg tcacccagtt aataagaggc acagcccaga
                                                                    34020
tagatgggaa tgtgtattga cataggaaaa acaaaagcaa aaacaaaaaa cccttttatt
                                                                    34080
tggagattga agagctcatt cttatggaca ggtcactttg tcagtcagaa tggatgagtt
ctacattgct tcctccaaaa tgtactccac atgcagccac ggtatgtcct acaacattag
                                                                    34140
ttcattaaga aatgggcgcc caagagtggt gggctctcat caaaacttgg cgagtgtcac
                                                                    34200
gttcagtcac tgcagaaatg aaaacgtcct atggccttgt cgtcctgctg gccccagcct
                                                                    34260
tggcctcaac tttcccttgt attcttgtct ccgtttgcaa acctttgcag ccatcaggcc
                                                                    34320
tgggagtact ggaaggaggc tctgtctccc aaactgggtt ttcaccagga actcacttcc
                                                                    34380
atttcattgt ttgttctgct tccctctaga cacaacactt acctccagga atgtacaggc
                                                                    34440
cagcgggagc ccacgtatca gctcaacatc catgacatca aactgctctt cctgcgcttc
                                                                    34500
gccatggagc agtcgttcag cgcagacact ggcgggggcg gccgggagag caacatccac
                                                                    34560
                                                                    34620
ctgatcccgt acatcattca cactgtgctt tacgtcctga acacgtcagt accctgtgtc
                                                                    34680
ccaggggcgg catctcgcag acceacctg catccctctg cccgagatcc cctcagcttt
                                                                    34740
ttcatagcct ctcatgctag ttccggagca agcgtctggc ctaaggcagc ctttttgccg
                                                                    34800
aggtggggat gctcatctgc attcttttag ggccatgcag aaaaagcaat aaagggaact
teetteece aaactgeest gteteecace atgggeages caagacegea teettggact
                                                                    34860
                                                                    34920
gacgttcagc tcacagggga gcaggaagtg ggaaaagtca ggccactgaa gcctctactt
                                                                    34980
cgatgcagcg gctacttcta ctttccagac tgttctcttg aatgggggga ggccacaggt
                                                                    35040
cggagctgtg cccacatcat tagtcaaggg catatagatt gttacaggtg atggtttccc
                                                                    35100
atcaagggga tgcagcagag ctgaggaccc agttcataaa tggaaaactg gatttgttat
ccctgttttc tctacagtgg gtaatgcttc tggcaagtgt gaagggaaag ggaatgttca
                                                                    35160
agattatctg ggaaagtcaa ccgacaagga aggcagccag gaaaaaaaag agattggtag
                                                                    35220
ttttatccat atgcacatta tgggacagtt aggttggtac ctggaagtgt aattttaaag
                                                                    35280
                                                                    35340
aagcacttag gccaggcacg gtggctcacg cctgtcatcc cagcacttgg gaggccaagg
                                                                    35400
taagaggatt gcttgagccc agcctaagca acatagcaag actctgtctt aatgaaaaaa
                                                                    35460
acaattgttt taaattagcc aggctcacac ctgtagtccc agctattcgg gagactgagg
tgagaggatg gcttgagcca aggaggttga ggctgcagtg agtcgtgatc acaccactgc
                                                                    35520
                                                                    35580
actccagcct gtgtgacaga gcaagaccat gtctcaaaga aaaaaaaatt aggagattga
                                                                    35640
ctatccttta gctcttccat ttaattcact gtttcatgct tgtaggcccc atctcctagc
                                                                    35700
aagaggetta eggtteeetg ttgaaaggtt gtgtacaget cacceegggt agetgeagea
                                                                    35760
cagtttaggc aacaggacaa tetgtetett gtetttteta gteetttete tteaacaatg
                                                                    35820
ttatcttttc cttccctccc atttccttgt gagttaaaag gctgacctcg agaccacagg
cttcattgtt aaaacacgca ggggcaggtt gacatcagag tgcattacat catctgctga
                                                                    35880
                                                                    35940
actgcttaga ctggcgggag cagcactgg cagcactgat ggcgcagacc ttcccactgt
ccaaatttcg ctccttctca gtgttcctgg ggccctggac agagccctgg gtgactaggt
                                                                    36000
gtcagtatgt ttctgaacaa gccagacatt tgtaattgtc aggtcccttc attggaaagg
```

gaattggctg tctcacagtt tctttggtca gccagaggct gacccagaag cttcacagag aggeettget teteggeeca gactgettee cagtegacag etatecaatt gacattggtg 36180 ggagcttggt cacagtgggg ctgagtgcct ttggtggaat atttgtttat ggaggcaagt 36240 atgtcacagc atggccaccg taagccagac cagagcctga gcagatcctg cagcagccaa 36300 cagcctcaga ttccctacag ggctggaaga tcaagttgaa tgtatccatc catgcccatc 36360 36420 tgcaggcagc agaagcaggc agggtgtcct tgcaccctct cctcctgctt tcccagagtc cagcatctgt gccagtgcca cctatagacc tggtaacttt tttttcccgg ttctagtgtt gtgtttgtcc ccacctctcc ctaccagtgc cccatggagt taggataggg catcaagcat 36540 tcatggcatg agagcaccat tcaggatcta aggagagagt gtacccagaa gcgtgtcatc 36600 36660 aggaaggact taagtcacct ctcagtgctg attccgtgac cttttgtcaa agcttcagcg tggagaagga ggtagggtta agatggacag gctacctggc ttcagaacac agttttttcc 36720 36780 acgatgtgag acttgggcag aatcettace teetetgtae tgeagtttte tgtttettta 36840 aaattgggat agtggtggca ctatcccata gcattcttgt gagtactaag tgaaataatc 36900 ccgtaaagca cttagagcag tgcctggcac tgagtctggt gtggtcatca tcatcatcat 36960 cattgcaact taggacgcat gaggacaaga agcagcgctc atctggaaga ggctgttcta 37020 acgaaggcgg gaggatccta gatcagaaga agacaaaccg gaagagggag cctaggaaag 37080 gaaccacatg cacatttagt gcaaaccatg taaacataac ataacaagac tatgtggagc aagggggagt caggctgtgg acccaccagg gaatcttgat tcatgttttt ggccccatca 37140 37200 ctcactagct tgctgacttt gggcaagtca cttcactttt ctgggcctct ggagttacta gcacagttcc atgttgggga gattgtgaac gtccctgata tatggtgctc aggaaccagt 37260 37320 agttgcttgg aattgtatta gagctggggt aggagctaga catggggcca gggaagaagg gaagatgccg cgaagaaggg cctggaaggg gacgaagggc gtggattatc agaggaagtg 37380 ggagtagtcg gcaaggatgg gtggggagtg ttgagtcatc caagcgttca gcaaatgtca 37440 37500 caagacaacg acaaattgag caaattcttc ctgctcttgc tgccgggtcc tgcttccacc ctgcttttat tttatcatgc cgcttttctt ctagaacccg agcaacttcc cgagaagaga 37560 37620 agaacctcca aggctttctg gaacagccca aggagaagtg ggtggagagt gcctttgaag 37680 tggacgggcc ctactatttc acagtcttgg cccttcacat cctgccccct gagcagtgga 37740 gagccacacg tgtggaaatc ttgcggaggc tgttggtgac ctcgcaggct cgggcagtgg 37800 ctccaggtgg agccaccagg tcagtacctg cttccggaag ctgctgctca ctatttccca tcatcagttt tgaaaagctg cttagtggta cgcacgtgct aggtgaaggc atgctttgtg 37860 37920 actgcggtgg ttgacaccag cccttctccc ttctcagtct gtcatgtcaa gagtctaagc tgatggctgg caggttgcct ggtcatttct gggttttctg ttccgctact agaaaggtag agccagtctt acctactgta gaaaatgtta ggaaggcagc caggcacagg gtgataaaac caatgagatg atcagggcta agaacagtaa tcaggttttc cacatcttgc tggtgttggc 38100 ataagccagg aaagtttcag tgtggccaca tggggtattt tctaataatt aaaaactcgt cttcattctc tcttcttggt tacattccta tcccatgcgt cccacattcc atgaaccttt 38220 cttcctctag accactctcc tatacgtgtg gacacctccc caagaaagag catgtcagaa 38340 aggaagtggt ctttgattta tgaccttggg ctgtgatttg ggacagatgg tctcaagaga aacagctgga aactgccacc acagcatctc tttgaggacc cccatggatt gctgtgcgca 38400 gaggagaccc catgggtacc actcaggctg ccaatggccc cacacagtct ctacctttcc 38460 tggggagcta cggagcaggc tctgggtttg gcattttgct tctgtccctc gagtgaaatg 38520 tgcctctgct tcatttctgg aagatcgggt ttgtgatttt tgtgattctg ctttagccca 38640 ggattcgagg gatcatgtcc acatttgtag gccatccagg gagcagagag aaacttttag ggccgtgata aagacaagcc aagtggaaaa tagcctgtgc cctcattggc acacctggtg tetttattte cattagecet gattgateaa gegttgetgg tetgtgggea etteaegete ccagagagac cagattggag ctgtcctgtt gaatctggcc tgtaccagat catcactgga gagtgggagg gggcgtcttg ttagattcct aggtaacccc tgcccccatt cctaacatat cactttccag tatttcccaa gagcctgaat taatagttaa ctagctgctg gaaatcaaaa gttagatctt gagaatacta agttgataag tcaggcttgg ccagtatcca tatgctgcat 39000 ccacagcaaa tagagtggcc atttattggg cacagtctct ccatggcggg tgtgcaatct gaacccacag gagctgtttt gctctcactt aggagactag cattcattat tgtcccaggc 39120 39180 agttcaggaa aagctgattt ggtcacagct taattaggaa atccagtgtg agctactaca ttcatgagtt gctgttttct ctgtagcagt ttcgtcacct ttactaattg gccttaaata 39240 39300 attaagttgg gcagggtcac tcaggatttc tgcttaccaa agcacaacag ccacagcaaa 39360 gggccaaata cggccgtggt ccggggccgt gagcccggca ctcatcaggc agactaggaa 39420 aggcactgtg ggttagcccg atactgggag gagacccatg ggggagagac cgcggctgga 39480 agggcgtgta gagatatcat cctgatgctg gggcagcctc actggcggca ggctttgtcc 39540 taagtcctgt aagtcatggg gtaaggggta gtagcagaga cacagaaatg tagctcagca 39600 gaagetggcc tettetgcac acttgacatt cagaaaaaaa gtteetetge caggaacttg 39660 caagtacaaa gcctgggaca ttctcaggcg tctgtcagaa cttgatctgt tatcttgtct 39720 gccagggtaa agagctgcag agaaatggat tettgteete atecaegggt ccaeetteca

39780 ggactttagg ctgcagcatc atcacacgta tgcgggagag aaagtggggg cttgggaagg 39840 tactggggca gagggaggcc acaggaagca tatttcagta gagagggaat tgtccccatt taatattatt tgttttttgc gagttattta ttgaatgcag gtgtggatag cctgtctcat 39900 gctaggcagc cccttcactt gaggcccata tagttttagc ttctataatg aataccatct 39960 atgtttctta tttttatgat tcttatatat acccatgcat tttaatacta aacattttaa 40020 tatatgtccc tttagtcatg ggatgtgttc cagtgtgttt tgaggtgtag aatactctgt 40080 gacaagggct cacctaggct ttacttatta cagatgtgat ggctgttggc aaacaaaacc 40140 tccgtagagc ttgggtggta gaaactgaat cctgacactg atatttcact gtctgtgccg 40200 40260 aggggageet gatatttetg tgttteatae tggetetaee tggtgtaate atteeteaaa cctcaaacca agaattctgc tgagaaggca gtggacattg ttagaggcag tctcccctg cctgtcgctc cccatattcc aaggaactgg ctggtcttta atcctgaact gaatcattgg attaagtagc aacgatactg gttagaaaca atggggtgtg gtgagcaact tggattatcc caggatttag gtgatgtcag ggtggctgca tgctccatct tagacattac cattgcttga 40500 40560 taccaacttc ctagcagctt gctgccattt aacacagcac atgtttgaca agttaccgtg 40620 tttgactggt ttaggtctgc tggcttttaa gaaatttctc ctagtgggaa tgtaaagact 40680 gaattaaaac cttgtttcct acctcattta ttaggttcca tcaaattcca agagcttgtc ggggcccaaa cacaagggat acataggaat cctttgcctt tctttaagtc actagccttg 40740 catttgccac gtctgccctg gcgatgtctc ccccggttcc attttaccct gatctggaag 40800 atgagcactg agagaatcag atgaatttca tggagcattt ttgtaaccaa taaacttctg 40860 ggtcccaggg ctccagaggt tcttgcccac agctgctttt ttccaagcag aaggctagtc 40920 40980 gctggaactc cgagatgcat acaccactgt gactcttccc ttgctcccag catgccttgc 41040 tctgtccttg tgagtatcct cctagggact tcatgtgatg gaactggatt ttctttcca 41100 ggctgacaga taaggcagtg aaggactatt ccgcttaccg ttcttccctt ctcttttggg ccctcgtcga tctcatttac aacatgttta aggtaaggag gctgtcagag gcccagtggg 41160 41220 ttttggcaag agtgtaaaat gtctgcactc ctgtccctga ctctgcctca gcacccacat ggctgctcct ccgctgggcc tgggggcgct tttttcctag aaacaaacaa ccccaactgt 41280 41340 ggttttgttt ggtttggttt ggtttggttt ttttgagacg gagttttgtt cttgttgccc 41400 41460 aggctggagt gcaatggcgt gatctcggct cactgcaacc tctgcatccc gggttcaagt gattctcctg cctcagcctc ccaagtagct gggattacag gcaggcacca ccacgcccgg 41520 41580 ctaattttgt ttttttagta gagatgaggt ttaaccatgt tggtcaggct ggtctgaaac tectgaeete aggtgateeg eetgeettgg eeteceaaag tgetgetatt acaggeatgg 41640 41700 gccactgtgc ctggcccaca tttgtagctg agatcactcc tgtcacctgc tcccgagcct 41760 gctccagact cggctgtgca ggaagacctt ccccgccggg tctctctttg ctgctcttgc cgtgctattg ggataagctc tgttgccctg agtgagtctg acttaccgca gccagcttat 41820 aacaggacac tcctctccgg agagaatctg agtttttgag ttggttcctt tcatcatcgg 41880 41940 aatgagacag ctcatggaag cacattgaca agtccctttg ctctggggaa tgcgaatggg 42000 aagtgtacgg ggagggaatg cagccacttg ttggagcctg tagcttcagg tgacacagtg 42060 cctaataagg agggcctaag aggaatgaag tgaaattgtg tcgttcctgg agacaaaacg 42120 cacgetetag ggtgcetgtt ggtatgettt ggtgtaggtt gggagggetg teetttgagg ggttgaaatg gcctgactga cttgaggcgg aagatgaggc agcagtaagt cacccacctc 42180 42240 tettgtetee tgttgattet egtagaaggt geetaceagt aacacagagg gaggetggte 42300 ctgctctctc gctgagtaca tccgccacaa cgacatgccc atctacgaag ctgccgacaa 42360 agccctgaaa accttccagg aggagttcat gccagtggag accttctcag agttcctcga 42420 tgtggccggt tagtgtcaag gttttctctt ttaaagatcc tccgcagcaa agccccatgt cttcctccgt gggtcatccg tagctttatc ttcacgacca gaggaaacgc agtatgaacc 42480 agcctgtcag ctgccactga aagccctggg aaagatgcgt aaatagcaag tcaccgataa 42540 cgagaacagc agctctaaca tgtactgagc acccctctt tccccgacat gggctgttca 42600 ctgtatgtga tctcagccct cgaggcagcc ctatatgagg caggagcttt ggttatcccc 42660 42720 attttataga tggggtaaat gaggctctga agatcaaata agtggccaag ggaacatagc 42780 tagaaagtga tagcatccct gtttgagtct gttttttaat ggcagttcag agaattaaca 42840 tgcaaattgg aatgcccctg tcttcctcct gcgtcttagg tcacagttga ccccagggag 42900 gcatgggcga cccagcaggg ccgctctgaa ctgtgggtgt gggagacgtg gtcagacaat 42960 tccttatcct actgctagta aaattgaaat tctttgtgta acaaatttgt cattctaatt 43020 gcaaacaaac acattagaat tggtttgtat ttcataacca agcaccaagt gacagcaggg 43080 ggaggtgact tggcccgtgc ctgggaaatc cacctagggt taaaagacag tgccctgtga 43140 ggttgtgggc gccgcggcat tacagccccc atcagagcac ccgccctaca aaggtcagct ccccagagcc aacgcacagg taaccaaacc tgccagctct tttttatgat cttgtttcat 43200 43260 ttttttatgg cattcgttgt gggaattttg taaagtataa agaagcagga aaacaaactc ccccagatc ccactgttag gagaacgcct ctgctaacat tttctctatc ttgttatcct 43320 ctgggaatga gacccactaa agggctagag tgttgctcag tgtgaattcc tctttcttcc

```
43440
cagctcagag ccagctgacc gattttccca aacagctctg tgcctccgca ttggctgccc
cttgcagtgt cctcagcgga agctctgtgc tgggatggtc ttcgtcgacc tggtgcctgc
                                                                 43500
ctccgcgtct gggcgggcct gtgctaacac tgctcacctc tgtgtgtttg ttaactccac
                                                                 43560
cacctcttta cggctcccac tggctctgtt tcagcctaga tgtttcacca gcatcatacc
                                                                 43620
ttagcacatg cctcgcgttc ttcccagaaa gtcagccctg ggaccaggtg ggctggtaaa
                                                                 43680
gtcctcagtg ctgggccctg tgcctgttgc atgagcctgt gtcactgtga ctgtggaagt
tggagctagt gagaggagga ggaggtgggc agaggaagga gggtcccttg ggctcgagct
ccacatcagc cctgagctgc tggcaagcac ccctggcctg cagccaggga gagccagagc
                                                                 43860
ctttgccagg cagcgagcct ccgtgccttc cactcctagg tcaggttttg acagcaccac
                                                                 43920
tttattactt tgtttaagct gttagaaaat ttcagaacat cagacacacc ctattcaaat
                                                                 43980
gtgagaacaa aaacaccttc cagcagtgcc tgcttctgga acaggactcc tcctgcggaa
                                                                 44040
                                                                 44100
cagggttttg ctcaatgact acctcccgg tcatgctgct gtccagtgag cagccgggcc
                                                                 44160
agagettgte ggacegeagt gtgttetetg etagatgegg cagetgtgae teagggggaa
                                                                 44220
tgggggctgt atgcctgctc ctgacacacc tctgcccgtt gtgctttgca ggtcttttat
                                                                 44280
cagaaatcac cgatccagag agcttcctga aggacctgtt gaactcagtc ccctgaccac
                                                                 44340
cacacagcag ctgcggcggc gaagacgaag ctggcttgcc ttccaccctc tgttctccct
                                                                 44400
ccttgtgcat taagttccct ccgcgggatg ctgcattgtt accccgccct cccctctctc
attittcttg gtgtggcttg gggtttttag gcttcctgtt ttatctcgtg tgtgtggtgc
                                                                 44460
accagctatg aggttgtctg taacccaagc catcaaaggg cctgtacata cctaggagcc
                                                                 44520
atgagttgtc ccggccagct tcatacttga gtgtgcacat cttgagaaat aaacaagtga
                                                                 44580
cttaacacac attgaaaagg aa
                                                                  44602
<210> 13027
<211> 7575
<212> DNA
<213> Homo sapiens
<400> 13027
60
                                                                    120
gtccatctgg tagtaatgag actcctgagt gtcttcatgt cccgcaccaa atctggatcc
                                                                   180
aagtetteea tatgtgaggt atttttgett tgggtteatg ggtttgggga aaggtaageg
                                                                    240
gattgtctgg gtagtgctag ggccagcaca gaggtggtag tcctctgtaa gaataaagcc
attgttccct gaggggagta agattctaag ctgtcacctt ttcaagagca gaacctccac
                                                                   300
cttttcccga atcccttcca agctctggtc tttggtaaca atccctccaa tggaggggta
                                                                    360
aaagggtttg gaagttccat tattgaagag cagggctctc ttctgcaagg cacagagtgg
                                                                    420
                                                                    480
ctaagaggat tcccctagtg tatgttgcta taaggtatgg taataaagca gagagaaagc
                                                                    540
aatgtgtgtg tggtgaaagg agattagcat aaagcagaga aggtagaaat tgaggctgaa
                                                                    600
ctgcatccaa tcttaatgag cttagggagc tgtggggttt gctgggattt gcaaggctct
                                                                    660
tetaatggte ttatttacag tagettttet cettttttat geatgtgate aeteaceeee
720
                                                                    780
aagtgcctat aatggaaagt tttctctctc cttcttgaat tgggcttctt ttctagttgc
tcaagataaa agaggaaacg cgtcccctcc agggggaaag gttatttaat ccttgcctcc
                                                                    840
                                                                    900
ctggcttctg gcatatgtgc gtgtagcaag gttagagttg agaacagatg tgtttctttg
                                                                   960
tttgtcttac catgtggttg ttcaaaaaag ttctgaaaaa cctcacaaac ttccttgggg
aagtttcagt gcaagagcct gattcactca ctgccataaa agctaagact gttgtgagtg
                                                                   1020
tgtttcccat ccccaacacc cacctggatt tcacattgtt tttacaagcc attcttccca
                                                                   1080
tetetgtatt ttetetgtet eccagteate tteeeteate tecagtgeea cageageage
                                                                   1140
                                                                   1200
tctactgagc tctggggctg tggactactg cctgcacgtg ctcaaatcac tgctggaata
                                                                   1260
ttggaagagc caacagaatg acgaggagcc tgtggctacc agccagttgc tgaaaccaca
tactacctcc tccccacctg acatgagccc attctttctc cgccagtatg tgaaggtgag
                                                                   1320
                                                                   1380
atctttccct catcaaagaa acactcgtcc tttgttcaga gcactcttct ctttcctcgc
ggtgcagaga gctcaagggg ctgagggtga agagccatag gaaggagccg gcattccttg
                                                                   1440
                                                                   1500
gtgggggtta atctcggcgt gattgaataa atgaccactt ctcccaacct tctgtgggat
                                                                   1560
tctcattcct gcctctttgt aaattggagg aattgaatga gatcatggtt atctcgtttc
                                                                   1620
acattaagtt tagaaaaaga tgagaaggta caagctaatg tcatgagttg tgggtcatga
                                                                   1680
catgtgtgtc agatattccc tgtgctgtca ccactgagag gccctttaac gtacttatta
                                                                   1740
agaagatggg ccttctgatc agattgatct gggataagtc ccatcttgtg ttcttactta
                                                                   1800
ccagtcttga agcatggaga agttctgtct gtctaacctc cctaaccttc agcttctaca
                                                                   1860
gctggaaaat gagcatacag atggtatctg ctttacaggg ctgttgtgag cattgaatga
```

1920

ggtgcccttt gtaaaggact tagcacaatg cctagcatgt atcaatgccc agtccgtatt

1980 aactgatatc accagtctct tcctcactgc cccctcagaa tagctttgag tagggtagga atacgatagg catagagtgt ggatctgatc gttgtcttgc tctttttca tgactctttg 2040 2100 gtggttttcc ataacttaca ggccaaagag ttctggagga cccagccacc tgcttgactc 2160 tagetttgte acetataaca ceetacaege ageeetgeea geetgeacat tteccaaggt 2220 gtggcgtgtt gcctttgttc atgctgtccc ttctggaatt ctttcctctc cctctgctcc 2280 cctttcttct cctgtctagc gaattcctag cccatcttca agatccagca cgagctttgg 2340 atccttggga aaacttccct aacatatact ccctgccatc aagtctgctc aagagagcct 2400 tgtcctgggt tcccggagca ccctgtgtgc tccttcacct gtcttcccct ctacactctc agcagaaacc atattttatt cctgtttaca actccagtgc ttgatacaga actgatgaat 2460 aactgggagt tgaatatgtg agacacgttg tgccctcaaa ctcttacaga ttcttttat 2520 2580 gggaccacac agettgcagg atagetgttg tttccactgt cctcacatct ctcatttacc 2640 tctgcctttt tgtgttacat gaagccagga atcttggctg agtttagtga tcttgcccac 2700 cttggtttat ttaacaattt cttgttatca tgggaaattt tggttctagg gatagaatac atctcataga agtcagagat ccttactccc tttttctttt ttttttccaa tttttttgc 2760 2820 ctttctagca ctcatcttta tgtaggcaga gtacaatcaa cccaatgtca aaaaccatag agtgaaatat taggactttt aggaagtgag gtctgcctcc actgtaacct ttgcatgtaa 2880 2940 ttaaattggc cgcagaagcc tgggccttct gggtttatag aataaactgt cagtcagtct tgattccagc tctgaaaggc accetttacc acctccaaca tgtaatacgt ctaatgagcc 3000 3060 aggettttte ctaattgtgg teatggaaaa tegatagtea eaggttetea tgeaaatttt 3120 cttctcccag ggtcatgctg ctgatgtgtt tgaggcctat actcagcttc taacagaaat 3180 ggtactgagg cttccttacc aaatcaaaaa gattactgac accaattctc gaatcccacc 3240 tcctgtcttt gaccactcgt ggttttactt tctctccgag gtaagtgaaa gtcccaagct 3300 gcatgcttgt tgggctgagg acacatctgc attcacctct gtgggcccct ttcttcctca teettaettg gtattteece ttgeagagte cettteacet ttgtaggtet tggtettgee 3360 3420 cttctggaac atactgtgtg gtagaactgt gggagatgtg tatcaaacaa gccatacttt 3480 accttctgat tctgtgtgtt gaacttcgcc tcacgtgctg ataatgggca agtttaataa 3540 tttaggttct gtcagaaaaa caaagtatac tagttatctt aatagagaga tttcaatatg 3600 ggaaattggg taaatgctgt tggacaacaa aaagataaa aaggaaacat gaggtaacac agggatagta actgcctgaa gcagttatca ggaagtgggt tccctgaggg gatgtgatgc 3660 3720 ggttgatgct gggagcagtg agagaagctg atgattagaa ctcactgtgg ctgccagggt 3780 gcagggctgt tgctaggact gcaggcagat gggaagaagc aagccccttc ttcctcctgc tgccagtgtc cctccctgtt ggcagaacct aagagggagc cagctggcaa agaagtagtg 3840 cattggcata attctggcct cagcatcact gggcagtgtc agtaggggtg ggttgggaac 3900 3960 tgagagacaa tggctttaat aaccttagta accagacagc aaccctgaga tagattaact ctgggaagaa taatctgtta gcaaacctca gatgaggatt ttgagttaca tagttgtacc 4020 4080 aacccaatct tctctttagc tcttttacct gaaaaagaga tttggaatgg tttttttctt 4140 gatagtttcc ctttgggtgg gctgaagtgg agtccagctt gcctgtagat tcctaagggc 4200 acaaggaaga gatgcatgaa tattggtatt ttcctctttg atttctttct ctccctttct ttctcctggt ctcattaaag gatatttaag tttaagagag gctggtttgg tcaagaggaa 4260 atagcttggt ttgtgtttct ccccagcctt tgtttttttt ttttttta agaccaagtc 4320 4380 tcactctgtt gacccaggtt ggagtgcagt gacacgatct ctgctcactg caacctccgc 4440 cctctgggtt caagcaattc ttctgcctca gcctccctag tagctgggat tacaggcagt 4500 gctaccacgg ccagctaatt tttgtattgt tggtagagat ggggtttcac catgttggcc 4560 aggetggtet caaatteetg aceteaagtg ateageeeac eteggeatte caaagtgetg 4620 ggattacage tgtgagecae egtgeeegge etgteeeeag ettttaataa eagtttatta aaacccaggg tgtgagagcc acagttgata tagatacagt cccagagtca tttactcttt 4680 gtggtgtttt tcttctcaag tacctcatga tccagcagac tccatttgtg cgccgtcaag 4740 tccgcaaact tctgctcttc atctgtggat ccaaagagaa gtaccgccag ctccgggatt 4800 4860 tgcacaccct ggactctcac gtgcgtggga tcaagaagct gctagaagag caggggatat 4920 tcctccgggc aagtgtggtt acagccagct caggctccgc cttgcaatat gacacactca 4980 tcagcctggt acgagggctg ggacctggta gggcagggag gggggatgtg ataaggctta gccaagtagg taatagggct ggaggtaata atgcaggact tttaactgtg ttgacaatgg 5040 catggttagg gctgagatga gggtaaatcc ataacccctg tctgggtgct gtaccatgtg 5100 tagttggctt caggatctgg gatgtccccc tcagcactct catcccacct ggcagcagtt 5160 cctccactgt gaggtgagtg gcccgagctt cttaccagtg ccatttgctt acatcctagt 5220 caggactgat ctctttgtgc acctctggtt tttacccttg aatactaaag aaatgatgaa 5280 ggttcgagta gaaaaatgta ttgctgccta aagagaaact gtttggactt agaggagtaa 5340 actgagtatt ttgtatgtga acaacctaga aagaacgtct ttaatctagc tggctcatgt 5400 5460 tcttgcttat cgttatatat caagaaaagt aaactggatt atagtttctt aggtcatggt ctaccttttg ctgttgcctt attgagtagt ctgaaggttc ctgaaaacag cgccttgcgt 5520 5580 ggggatgggg tagaacaaag gcaggttcgg taagagctgc agcggttgca gcagtgtgtg

```
5640
ggtcatggtc ccaggttgac cagacatctc agcaagcatc tgccttgctc agaagatcat
                                                                     5700
gttcaggtgt agtccaaagt cagggagatg gctccaggca gcaggtgtgg tgcttgtctg
                                                                     5760
ggcaatgtgg tggagttact cctttcccgt ggttggttcc tatttcagat ggagcacctg
                                                                     5820
aaagcctgtg cagagattgc cgcccagcga accatcaact ggcagaaatt ctgcatcaaa
                                                                     5880
gatgactgta agcaatgctg ctccttttga ttgctgttat tcattcattc aggaactgtt
                                                                     5940
aaggcctact atatgccaag cactgaactg gatgctggag atatagctgt gaacaagata
gactagacag aactctgtct agcaaagaag acaagtaaaa atctaaaaga gtggtgaggg
                                                                     6000
                                                                     6060
ctggtcgtca aagtttgggg agctgtagaa gcacaaagta ggagtctctg acctccaggt
agtggcagta aagtcaaaga ggagtaggtg gagtctagag aaccccttat tcaaaggagc
                                                                     6120
agggggctct ggtcggtgtg tagttaaaat acttttcaga gatttccaca gaaagtataa
                                                                     6180
cttcttcaca atgtccagca gagagaacat ggcaaagaaa gctggtgaga acagggcagt
                                                                     6240
ctcagctgta gggagacgtt gttttggttc tcctgagtct ggttgaggtc gtctcagagg
                                                                     6300
                                                                     6360
tgagcctctg tctcctctgc ttgcagccgt cctgtacttc ctcctccaag tcagtttcct
                                                                     6420
tgtggatgag ggcgtgtccc cagtgctgct gcaactgctc tcctgtgctc tgtgcggcag
caaggtgete getgeactgg cagectette gggateetee agtgettett eeteeteage
                                                                     6480
ccctgtggct gccagttctg gacaagccac aacacagtcc aagtcttcca ctaaaaagag
                                                                     6540
caagaaagaa gaaaagaaa aggagaaaga tggtaagggt caccctcttg tcattgtgac
                                                                     6600
                                                                     6660
tacaatgatg tatgtaaatc tctcttggag cacatggttt gtcctgttgt aaaaggtctt
                                                                     6720
ttaatcctga tttagagggg acttaaagcc caaatgttct ctagtgtcta cttttggtct
                                                                     6780
cattttcaat tatactgaag tgacacctta aacagcatga cttctcatac caagtgacag
                                                                     6840
taataagaaa agtcaaagtg cactgaacat ttttagtaga ccaaatttct tattctgtga
                                                                     6900
aataataaca ccttctctat ggagctccca tcagagttca gtgaaatgac actgagtaca
                                                                     6960
ttggtaaatg ctcagtaaat gttagctctc ttagctgacc ctcaccatca gctgcactgc
                                                                     7020
tttccatggt ccttggagac ctgagatcag tggtcagggt tgagagccat ggtggtggtt
                                                                     7080
cacattcccc cagttaatga tcagacatct ctgtgtaggc ctattgcaag cccttgaaag
                                                                     7140
gaagttcctc ctcctccagt gtcactgtat ttgttcagtg ccagcttaca tagcacttta
                                                                     7200
tcctgtggtt tttagtgtca ttattgtatg tcttgtctgg aaggcagctg tgctcaccac
tgcatcacca acgttacaca tatgtctcat ttggggctga cctatttgtc ccccagtaaa
                                                                     7260
                                                                     7320
caactaaaaa ttgttttgca gaatatcagc attcagtaga aacttttaga aatggacaga
                                                                     7380
attecetece teaceatttg gtageceagg cettaggace etggaggact tetteetact
                                                                     7440
cttcagccct tagtcctgtc ctaatcttgc aggtgagacc tctggcagcc aggaggacca
                                                                     7500
gctgtgcaca gctctggtga accagctgaa caaatttgcc gataaggaaa ccctgatcca
gttcctgcgt tgtttcctgt tagagtccaa ttcttcctcg gtgcgctggc aggcccactg
                                                                     7560
                                                                     7575
tctgacactg cacat
<210> 13028
<211> 1656
<212> DNA
<213> Homo sapiens
<400> 13028
                                                                       60
ctttgcgggc cactcggcca actgacgtcg gcctctcctg tctggatgtc cagtttctgt
                                                                      120
ggctcactcc tcaagccaga tcatctggga ctgagggtgg cctctgggct cctgtagact
tccacagcca ggatttcaca tccctcccca gagcctcgga ccgaacagcc acaagcagcc
                                                                      180
atgagtgtcg tgcctggact aagctggaga gacaaaggcg tttgtggcaa gggcccagct
                                                                      240
                                                                      300
ggaagccctg gcaggccaga gcatgcatgt gctggcttgc acgagcatac tttggtgttt
gtgttgggga caccgggctt ctgagggact ggcgtggctc cagggtgggg agcagcctgg
                                                                      360
                                                                      420
ttgaagcgcg gccaggcact cactctgttg ttcagatccc agctccactg cctgctgtgt
                                                                      480
ccacagtete etcacetyte aaatgggaat atetatytyg egggagggty etgaggttte
                                                                      540
cacgagetaa tetgeetget gtgtagtaac tagtagettt tettaetgtt agtgaacttg
                                                                      600
ttttagtctg aaggaaggca cccatgcccc aggtgaagtc cagctgagtt cagtgaggac
                                                                      660
gatggagacc cttggtcttg gcacccttct gccttatact gggaatgcct caggcttgct
                                                                      720
cctgctgtgt gtctgtggtt gcccactttc tgctggtctc cgagagactg attcaggtgt
                                                                      780
tcaggagtct gttcgctatt acatcacctc cttgtgagaa ataaagtgga gcagcctcat
                                                                      840
ccagacagca aagcaaggag ggagcgtgag gagcagccag gtgagctggt ggcatggggc
cgcctgtgca gaggccggcc tcgctgcttc atgtggctca gggaggctca gcacgtccgt
                                                                      900
                                                                      960
catcacacct cagggcageg agagtggacc tggtgccttc agaagcccac ccgaggcctg
ctgctctggc ctgcaaaggt ggagtcacca aagctcatta caaagtgttt gcttattttt
                                                                     1020
gtctgccctg cattttttta tttcttgcaa aggcctcaga ggatgtgggc cccagcccaa
                                                                     1080
                                                                     1140
acacatettg ttttcactag tagagetttt cetagtgtet geacaggggt gettecagtg
```

```
1200
gctctgccat agccccagac aagctgctga cacggcagcc atgaggtctg ggacaggttc
cagggggtgc ttttggcctg ctccagcagg agtggaggct ggactggtct ccagcaggag
                                                                     1260
                                                                     1320
tggaggctgg actggtctcc agcaggagtg gaggctggtc tgggctccag caggagtgga
                                                                     1380
ggctggtctg ggctccagga gtggaggctg gtctgggctc cagcaggagt ggaggctggt
                                                                     1440
ctggggagag agctacacct ccccaggccc aggtctcacg aaaggagcat cgaagggcac
cgaggaaaaa gccacttagc cctctcctgt cctgcaccat tatctgggcc cattggttct
                                                                     1500
tgggtccctg tctttctcaa caggcagccc cagttgggga attaagttga ttctggactg
                                                                     1560
                                                                     1620
gctatgccta atgatagctg caatttgaaa cccataaagt tcgagttcag caataaagtt
                                                                     1656
ggggaggcag tgtcaacacc ttccttgtag aacggc
<210> 13029
<211> 14328
<212> DNA
<213> Homo sapiens
<400> 13029
                                                                       60
ttaggttatt ggagtgatga gtaaagaata cataccaaag ggcacacgtt ttggacccct
                                                                      120
aataggtgaa atctacacca atgacacagt tcctaagaac gccaacagga aatatttttg
                                                                      180
gagggtaagt aagggaaatt tetteagace cattaaatgt taggaaaaaa tggagetaaa
                                                                      240
agagetgggt ggetcacett teteateetg tgetgagaaa tgetgggget cacceataag
                                                                      300
tatccagcat ccccatggac acagggaatt ctgaacaaat gtgatgaaac cgatgaaatg
                                                                      360
tctggcctgt aggtggttag tgatggagat acgggctata tgtgaatctt gatttttgca
                                                                      420
attcattaga gctttgtaat gaaaggaaac agtttgttgc ttgctttaag gataggttca
                                                                      480
tttgcatttc tccgcaagga agtagtaatg agttaccaag ccttagattt cacccctttt
                                                                      540
tgatttcttg ctgacttaac tttaattgaa tggaagagtt atcacaaatg aattatcttt
                                                                      600
ttggtttttt tttttttgag atggagtctc actctgtcac caggctggag tgcaatggca
tgatctcggc tcactgcaac ctccgcctcc caggttcaag caattgtcct gcctcagcct
                                                                      660
cccgagtagc tgggactaag gtgcgcgcca ccatgcccag ttaatttttg tatttttagt
                                                                      720
                                                                      780
agagacgggg ttccactatg ttggccatga tggtctcgat ctctggacct cgtgatccgc
                                                                      840
ccaccttggc ctcccaaagt gctggaatta caggcaagag ccaccgcgcc cagccaggaa
                                                                      900
tgacaaatga attaccttat aagtaaatgc cattaaggaa ggatagctgg aagatgggtt
gaggggaatg gaggaccaca gaactagtcc tatttaaata catgtgcatg gtaaaatgat
                                                                      960
                                                                     1020
tccatttgac aataggttaa ttatctcata gcataaggaa aatgcttaac agtcatatgc
aagatgataa gctttcctat agcatccaac caaaagatct agccagtaca atttcctttg
                                                                     1080
ctatattagg gttagaaagg ccccagagg tgaaccaatt agatggaatc cttgaataaa
                                                                     1140
                                                                     1200
acactggatt agcagtgaac agaaaaaagt cagattgctt tccttctcc catagatgtc
tcagggatat ttagtttcct cagaagataa agaatttagt aagcgttttt ttgtgcatac
                                                                     1260
                                                                     1320
ttacatgaaa tgtacattat ttgaattctt taaaaaagaaa cagctgcatg ataacaaaaa
                                                                     1380
ttgtgttatg cttgctttag ctggtatttt tgcctagaac gattatatcg ttcggacaag
aagctattcc taagaaacaa tatttttaat ccaggaagtt tttcattttt agaaatttat
                                                                     1440
                                                                     1500
cttactattt cccaagcaaa agagggtagt tacagattca ctaagaatca tgtgctcaca
                                                                     1560
attittatti aataattatt cctccttaaa atatattaat cacctgactt acaatggtgg
                                                                     1620
aaccatgagt gcatttttgc ctttattgtc aataacgtct tctcagaagt gagccacaaa
                                                                     1680
ggtgcatagt tcttggagtt aaaggtctga attaagacaa tccagcataa gtctcattaa
tgtgtgatta ttttgagaaa aggcaagaag tacctaagaa tctccccctc actgtccagt
                                                                     1740
tccctgtttc atttaaagat tcactgtaag taactgaaag gctttccttg ggaggattta
                                                                     1800
tttgaatcag tctttcacat gcaaaggata ttgtagaaca tctcgttttt gctggcagga
                                                                     1860
                                                                     1920
atatgaacat ctgttgtgag gaaagaaaaa gtttcatgca aattacactg ccaaagaagg
gatgttcaag ttgagaaacc agtgacattt cttgtaactg tactatgaat cagcgcattt
                                                                     1980
taatcttcta gataatatat ggaagtgcag gaaggtggta ggaaacggtg ttcattttac
                                                                     2040
atatgcgtta ttttattctg tgtgagtgac ttcatggcac cgacattgct gtttttaaat
                                                                     2100
gaggatacag taaattgcag tccgaggaag gctaactgga atcaacatac ccgtagcttt
                                                                     2160
agaaagcagt ttccgcacca gcgaagagta caagagcgat ggaaccccat gttcctggaa
                                                                     2220
                                                                     2280
gtttgcacat cagagtaaac aaacttgaaa acccctcttg atagcagaat tcacccagcc
                                                                     2340
ttgttccatt ttctcttaac aaaacacacc gcaaaagctc tcacaagctg ctttgatgaa
gccacatgta tttccccctt cacaatttac aggaagttac tcttaaaaga aagtgattct
                                                                     2400
ggtgtttacc gcctgtgtta aagggacaga gttccttttt atttctgata acgtttgagc
                                                                     2460
gaaatacaga aactatctgt agactagcat agtcggtacg tgagtaagga aaagcaataa
                                                                     2520
cctgctgtcc ggtgagcaca aaattcctgc tacgaacagt gccttactgc tgcttggaga
                                                                     2580
```

2640

ctgcaagtcg cagatcacac taggtattga ctgattgtat aaggaaattt cttaaagtct

```
2700
aaagtaaagg tggtacctcc taaaaagagg ggaagagaga aaactttgtg tggaaggata
                                                                     2760
aggagtgtgt ttatagtttc agtaagagtg tacgttttaa tttttcttct tcctctgcct
ctttgccaag tagcctgagt gcatctgtta tccagaagta gtattactct aggacaaact
                                                                     2820
tcaaattctt cattctgcgt tgcctttaag gaacaacata ctttcttcct gttcttttc
                                                                     2880
caaaaacaca cgcctatggc tctgtgtgtg gtgttttagc cagcctcctc ccagataagg
                                                                     2940
                                                                     3000
ggttcccttc cctcctttgc attgaaagga aagtgcaagt ctggacatgt ttatcaagag
                                                                     3060
gaaaagtgac ttctcagtaa tagactgtca aattcgggct gctgcccgag tgttcgcttt
gttatggcag gtgaagttca cctttgcccc acccagtgtt tccacaaaaa ggcaaggttc
                                                                     3120
                                                                     3180
caagtattca tatgaacaag tgttacttta ggacttggag ggttgggggt ggaggatgtt
tgcatagttg aagccttggg cgggggtgta ggaaacggcg agtacagagg ccatagaaaa
                                                                     3240
agctaagact cagtttgacg tcgtcagccg gcttggtctt ctacccagtg actcaaagca
                                                                     3300
                                                                     3360
ctaaaagtca gcataatcgg aactgaagtc agtagcatcg cccatttgcc attcactgca
                                                                     3420
gtagcaaaag tagtactctg tggtgggtta atcggtttga ggcagctcct taaatgaaca
                                                                     3480
tttgtgtttc atttttctgt tattttcccg aacatgaaaa gacgataaaa ctgaaatgga
                                                                     3540
aaaggtaact gacaaaagtg tgccttacct gtttccgccc tgatttctgc tgattcaaga
                                                                     3600
ctattctggc taaactgatt ggattctttt tctaactagg cagtagggga tcagaaatca
                                                                     3660
cacacggtac cggctgtgtt tattctgaga ggtgctgggg agctttgggt ctgacttcct
                                                                     3720
tttacatgcc tgtcttctct tttggacaga tctattccag aggggagctt caccacttca
                                                                     3780
ttgacggctt taatgaagag aaaagcaact ggatgcgcta tgtgaatcca gcacactctc
                                                                     3840
cccgggagca aaacctggct gcgtgtcaga acgggatgaa catctacttc tacaccatta
                                                                     3900
agcccatccc tgccaaccag gaacttcttg tgtggtattg tcgggacttt gcagaaaggc
                                                                     3960
ttcactaccc ttatcccgga gagctgacaa tgatgaatct cagtaagtgg attacagaac
                                                                     4020
aaaaaaataa aaaatgccag taatgtcggt tctgcccctt tgaactaata acatgttgtt
                                                                     4080
taattatacg gctttgtcat gtgttggatg aagtaggtgg cttaagctag ggactaggaa
gaggaaaaac attttttgag tccctattaa ctattaggaa acttgatcat ttaaaagtat
                                                                     4140
                                                                     4200
atatatat gaggagctac cttgagtttt gaattcagga tgttacagga agaaatatat
                                                                     4260
gtccaattct aatttatcca aaagcagttg ggagaattac agggattggt ccagacatgc
                                                                     4320
tgcgtatgca aggtatagcc ctcatctgtg gtactttggc agggcttaga ctgcatcaaa
atatttatag atgtacattt gagtgtacag ttaggatctg atgtggaaca ttgtaagatc
                                                                     4380
                                                                     4440
attgctagaa aaactttgtc ataatttttc aatattattc taagtgaata accgtaaaga
                                                                     4500
ttttacatct tagcttcctt ccttacagta aaaaaactat ctgatctctt gatcagtatt
atagtagcca cctatcactt tatcttaaca aattctcaat tccttaggtt tatgtgcttt
                                                                     4560
                                                                     4620
tacttctttt atttgattaa aattgctgtc atgacctctc tctgcagagg gctgcatcat
                                                                     4680
tttggtcatt ctcaagtgat ctctttgagc aatttaagaa ttgccataag attctaacct
ctgctgtaac tatggttgtg tgttcttggt tagaccacta aatcttatta gcagttttaa
                                                                     4740
aaattattcc ttttggttta gaagttaaga ctaaatgctg aagtttttgt aacttttggt
                                                                     4800
                                                                     4860
tttgatatca tttcaaactt aagaaaacat ttgaagaaaa ggacaaagaa tttccactta
                                                                     4920
ccctttaccc aggtttacca gttattgata agtatatcca tttgctttac cagaaggcta
                                                                     4980
acttgtttta gttctcattt tcacctttga gacatttgga ataaatatca atgttaacat
                                                                     5040
aaattggaat titgactitg attitaggac caatgaacaa gccaagtact taccctagtc
                                                                     5100
atatataatc caactgtatg gttatttggt attcattcca cacttcattt tacttgatct
                                                                     5160
cccttaagat tgcaagattg tgtttgcagt ttttctgaaa atctggggct ataaaagcat
                                                                     5220
caggacetee eeegtagggg aggtegtgtg tttggggtee ttacacaaca ggttaceett
                                                                     5280
gagetteagg aaaagaactg geteteagtt eeceagttee agettaatgg gtetaattag
                                                                     5340
gtcctgacca aaaaggtggc agttcttttc cctcatgtct cttcagcgct ccccgagact
ctggagactc tgtcatatcc ctagggctga gcctcccagg aaccattcgg ctgttgtggc
                                                                     5400
atctgtgtat gccatgccca gtgctgagga cctagtaaca aacgacaaat gcacaggcac
                                                                     5460
agtggcattt ttgtggaact cgtattccag ctgtgcgtct cagaagaagc gcacagctcc
                                                                     5520
                                                                     5580
ctcctggctt tcttaacata gtgagccact tccacttaag ggtctcctta cattccttga
                                                                     5640
gtttaatcat tcatggattc agaggaaagt cttttgattt ttgcttttct ttaaacagtt
catttgaggt gacctacccc agtgactttg caccaaccac caagaaactt ttttgcatgc
                                                                     5700
ttcccgcacc ctgtgccaat caagggaagg gtttaaaggc ctggcgtttt tattcctcaa
                                                                     5760
agaaaggttt tgcacagtat tttaaggttc aagtgcttct actttgtgtt cagaagcaac
                                                                     5820
tgtcatatat actgtgaaat gacacctttt atttatccct ttttatttat gcagtatgtc
                                                                     5880
cccttttatt ttggcagaat tttttctaaa tggtggttta acattttcaa gcacatttca
                                                                     5940
                                                                     6000
ttgtccaata ttcatagtaa agaatgagag ttaacaataa ccagtcacat taaaacaaga
ttcctgctgc cagttgtgaa accggttgtc ttaggcgtgg cagctgatga ttgagactgt
                                                                     6060
                                                                     6120
gatcaggaaa atttccacta tttcatcagg cctaataggt agattgtgtc tccaaatgaa
ctgtgttggg tttccatgct taaagcacaa tagaggtggt gcaagaatct ccatgagggc
                                                                     6180
ttaaatggca gtgatggttc aggcggtaga gtttggagaa gaagggattt gaaacaaacc
                                                                     6240
                                                                     6300
aaaggaaaga aaagtaagta gccagaaatc acaaaatggc atttttctaa aaacaaagga
```

6360 aaaggaataa aagaactaat aagtttgaaa cccctacccc tcccaaattt ggcagggggg gaggtatttt ttttctatct atctaactaa cccatctaga aaacagttga ccaaattata 6420 gacttctaaa tgttaatctg ctttctcagt ttcagttgaa aagagacttt gttttgccta 6480 ctgcagaact tctaggttct ttcttatagt cttggggttc ttattataga tcgaaaatgt 6540 gagtcggcat aattaagcca ttcggagtct tcagaagcag ttcactcttg aaatgactcc 6600 6660 gtccgcctac agccatttaa gatttcagaa caaaaacaga tcttgatttt ctttttcatg 6720 ttaactcaag ctgttgctga gtgggagagt cagaaatgac accagctcca ctgattactc 6780 agctgctgaa ggatgatttt ttaaaatgca cctttactgt atatggactt cctaatttcc 6840 acctgtagag catcttaggg aggctaacat gtcactctgg atgttctttt agaataagat gcaaatctat ttttctgaag gcattagaga tagcaaacat ttattgtgag tttactatat 6900 actaggcact gtgctaagtg ttttgcatag aaagtttaaa attctggctt ttttgttggc 6960 7020 ccaatcataa gtttcatatc agttcaacat tcaaattata ttaaggtact taagaagaat 7080 ccctggctaa atgtgagggg cagtgccaca gatggactga aactttatgc ttattgcaca 7140 tttatgctat tattatttgt tgaattatag aaccaaggga gtgtggaagc cactggaaaa 7200 aatatgagac ttagatacat aatttgagta aaaatggctc aaagtcatga gggtaaagtt 7260 ttttgtattt ccattttatt cgagcggcat cgtttttaaa aatcattatg aatttgaccc 7320 7380 agatgccttg cctatcagtt ttcaagctta gttgtctttc tcatccttta ccattttagc 7440 tttaaaaaac aaaagtgaca attagaactt cctgcctgct gggcctcact gaaagaccga 7500 tattggcctg ataaggagat atttattttg ttttagtggc ttcagaaatc cctctccctc agcaagcttt ccatcacggc cccccgtca gcatcttccc tgatagcgtt cttctctgtg 7560 7620 tttattctgg ggcttcaggc tcgcccagga ggaactgata accgctggca ggagataaca ttctctaagg ggctctcaaa ttggaatcga atccctcaag ccagtcagcc tagagaatac 7680 atttaaaggg ttcagttctg gagtttcaca gagttcattt ctagacctat cagatagcaa 7740 7800 qtgtggagtt ctttctcaac taaattcaag cagagacatt ttttagacga tgaaggatat ttgcacaaag gcttcagcat gatcccccaa acctgctgcc tctgaaggca tctccacaca 7860 ttgacagcca atgccttcag tgcgttccta gggcaggtgt cctggcttga gtgactgtcc 7920 tccaataatc agagctcaaa ctaaacatcg tatgttttac ttttggtttc caggcaaggc 7980 tgagcaggga attttcagtt ttccctgccc agatgggtgt tttttcctga aggcatcatt 8040 tattgtgtag cgaggagaca gggctggctg tggcagggat agtctagaac tgtcctcatt 8100 8160 gctgctgttc ctaaatagta tctttaccaa gtaataacgt gccgtctttg ggaataagtg 8220 ctttcctctt agcctgttct gttttcttgg gtgcgctaag taattgaact ggctcaggaa 8280 gtacctattg tggtttggca gaggtgactg tcacgccttg tgactccagg ggccagcact 8340 gctgggatcc tggctagacc agacagagcc ttggtgaagt gcttaggctg tctgcacatc gcgaggaagg tggtattcac ttcgctaagc tccttggcat aggcagtttg aacagggctt 8400 tatcaaattc gtattcaaca agagtagaag cgaaaattga tgactgtgta ttacttgaaa 8460 8520 tgagtcttaa tctttcacat ttagttctca gggtatgctg atttccttta ggtaaaccat 8580 gaacatcaga aagactttta ttaacctatg acagggtccc caccccagta tttttccact 8640 ccattaaaat ggaagttttt ttttttttt tcttttttga gacagagttt tgctcttgtt 8700 gcccagtctg gagtgcaatg gcacaatctc ggctcaccac aacctccacc tcccagattc aagcqattct tctgcctcag cctcccaagt agctgggatt acaggtgtgc gccaccacgc 8760 8820 ccagctaatt ttgtattttt agtagagatg gggtttctcc atgttggtca ggctggtctc 8880 gaacttccga cctcaggtga tccgcccacc tcggcctccc aaagtgctgg gattacaggc 8940 aagagccact gcatccagct taggctatct tactccagcc taaacagcaa ttttctatca 9000 taaggtctgt actaatgaaa acagaatcac ccaaggctgc tgtttgttct gtctgtgctg ccattgtccg cattttgctg aggaggaaac ggaactgcac ttttgagtga gtggcccaga 9060 gccttctaga atgagagtgc gttggaagcc agatatgtgg cgattgtgtc gccagctgtt 9120 actcaggttt tctcaagaag gaggagcaac tttggcagtt ttgcttcagt tctctctagc 9180 9240 cctctgtgta atcgcccctt tttctttatt tcagcacaaa cacagagcag tctaaagcaa 9300 ccgagcactg agaaaaatga actctgccca aagaatgtcc caaagagaga gtacagcgtg 9360 aaagaaatcc taaaattgga ctccaacccc tccaaaggaa aggacctcta ccgttctaac atttcacccc tcacatcaga aaaggacctc gatgacttta gaagacgtgg gagccccgaa 9420 atgcccttct accctcgggt cgtttacccc atccgggccc ctctgccaga agactttttg 9480 aaagcttccc tggcctacgg gatcgagaga cccacgtaca tcactcgctc ccccattcca 9540 9600 tectecacea etecaageee etetgeaaga ageageeeeg accaaageet caagagetee 9660 agccctcaca gcagccctgg gaatacggtg tcccctgtgg gccccggctc tcaagagcac cgggactcct acgcttactt gaacgcgtcc tacggcacgg aaggtttggg ctcctaccct 9720 9780 ggctacgcac ccctgccca cctcccgcca gctttcatcc cctcgtacaa cgctcactac 9840 cccaagttcc tcttgccccc ctacggcatg aattgtaatg gcctgagcgc tgtgagcagc atgaatggca tcaacaactt tggcctcttc ccgaggctgt gccctgtcta cagcaatctc 9900 ctcggtgggg gcagcctgcc ccaccccatg ctcaacccca cttctctccc gagctcgctg 9960 ccctcagatg gagcccggag gttgctccag ccggagcatc ccagggaggt gcttgtcccg gcgccccaca gtgccttctc ctttaccggg gccgccgcca gcatgaagga caaggcctgt agececacaa gegggtetee caeggeggga acageegeea eggeagaaca tgtggtgeag cccaaagcta cctcagcagc gatggcagcc cccagcagcg acgaagccat gaatctcatt aaaaacaaaa gaaacatgac cggctacaag acccttccct acccgctgaa gaagcagaac ggcaagatca agtacgaatg caacgtttgc gccaagactt tcggccagct ctccaatctg aaggtaggcc ttgagagaga gcagtccaag gggctgtgag tgcatgcttg tgtttgtatt tagettgett tecatggggt ategattgea tttgeagtag tatgageece eggttgggga tagtgggtat ggattccgcc tggcttttgc cacttctagc tctttgactt tggacaagtg 10500 10560 acttcccttc tcctgatttt cttctgaata ataaaaaaat taggggtttg gactagaaga 10620 ttaggtgaaa ctccctgcta gcctgtgatt tttgtgcttt taagaaaaac accattctga aaacatgaag atttcttctt tttaagactg tcttgatgct tttcttaaga tatttgcatc 10680 10740 aacacttgag tettggagca gaaatgttag gtetcagage cagettgaga geagagetaa 10800 cacatgtggc ttcttcccag gtccacctga gagtgcacag tggagaacgg cctttcaaat gtcagacttg caacaagggc tttactcagc tcgcccacct gcagaaacac tacctggtac 10860 acacgggaga aaagccacat gaatgccagg tgcgcagtat tttctgggta gaccttctga cctttgtaga aaatgtctgt gagtcaccct cccatgtcct atatagcccg tagttaaagc caacaccaga ttctgcgttg tcccatcctg gactgatggc actatggtcc ttcccagtac tttgtatctg ctgatgactt gagatggcac agccagcttc cagtgggtgg gaaaatggta ggggaaataa acagcccctc gtgtgctgtg tgcccacatc cccccgtttg cttaatacca cactggaggt gccacaagga ggcttctcac ctcctaggtt gctgggcgtt ggccggtaag cctgccctc ccgttggcaa ctcttaatct tctggccttc ctgtctccct tccctgctgt ctctctcccc tacactgtag gtctgccaca agagatttag cagcaccagc aatctcaaga cccacctgcg actccattct ggagagaaac cataccaatg caaggtgtgc cctgccaagt 11460 tcacccagtt tgtgcacctg aaactgcaca agcgtctgca cacccgggag cggccccaca 11520 agtgctccca gtgccacaag aactacatcc atctctgtag cctcaaggtt cacctgaaag 11580 ggaactgcgc tgcggcccg gcgcctgggc tgcccttgga agatctgacc cgaatcaatg 11640 aagaaatcga gaagtttgac atcagtgaca atgctgaccg gctcgaggac gtggaggatg acatcagtgt gatctctgta gtggagaagg aaattctggc cgtggtcaga aaagagaaag 11700 11760 aagaaactgg cctgaaagtg tctttgcaaa gaaacatggg gaatggactc ctctcctcag 11820 ggtgcagcct ttatgagtca tcagatctac ccctcatgaa gttgcctccc agcaacccac 11880 tacctctggt acctgtaaag gtcaaacaag aaacagttga accaatggat ccttaagatt ttcagaaaac acttattttg tttcttaagt tatgacttgg tgagtcaggg tgcctgtagg 11940 aagtggcttg tacataatcc cagctctgca aagctctctc gacagcaaat ggtttcccct 12000 cacctctgga attaaagaag gaactccaaa gttactgaaa tctcagggca tgaacaaggc 12060 12120 aaaggccata tatatatata tatatatatc tgtatacata ttatatatac ttatttacac 12180 ctgtgtctat atatttgccc ctgtgtattt tgaatatttg tgtggacatg tttgcatagc 12240 cttcccatta ctaagactat tacctagtca taattatttt ttcaatgata atccttcata 12300 atttattata caatttatca ttcagaaagc aataattaaa aaagtttaca atgactggaa agattccttg taatttgagt ataaatgtat ttttgtcttg tggccattct ttgtagataa 12360 12420 tttctgcaca tctgtataag tacctaagat ttagttaaac aaatatatga cttcagtcaa 12480 cctctctctc taataatggt ttgaaaatga ggtttgggta attgccaatg ttggacagtt gatgtgttca ttcctgggat cctatcattt gaacagcatt gtacataact tgggggtatg 12540 tgtgcaggat tacccaagaa taacttaagt agaagaaaca agaaagggaa tcttgtatat 12600 ttttgttgat agttcatgtt tttcccccag ccacaatttt accggaaggg tgacaggaag 12660 gctttaccaa cctgtctctc cctccaaaag agcagaatcc tcccaccgcc ctgccctccc 12720 caccgagtcc tgtggccatt cagagcggcc acatgacttt tgcatccatt gtattatcag 12780 aaaatgtgaa gaagaaaaaa atgccatgtt ttaaaaccac tgcgaaaatt tccccaaagc 12840 12900 ataggtggct ttgtgtgtgt gcgatttggg ggcttgagtc tgggtggtgt tttgttgttg 12960 gtttttgttg ctttttttt tttttttt ttaatgtcaa aattgcacaa acatggtgct ctaccaggaa ggattcgagg tagataggct caggccacac tttaaaaaaca aacacacaaa 13020 caacaaaaaa cgggtattct agtcatcttg gggtaaaagc gggtaatgaa cattcctatc 13080 13140 cccaacacat caattgtatt ttttctgtaa aactcagatt ttcctcagta tttgtgtttt 13200 tacattttat ggttaattta atggaagatg aaagggcatt gcaaagttgt tcaacaacag ttacctcatt gagtgtgtcc agtagtgcag gaaatgatgt cttatctaat gatttgcttc 13260 tctagaggag aaaccgagta aatgtgctcc agcaagatag actttgtgtt attctatctt 13320 ttattctgct aagcccaaag attacatgtt ggtgttcaaa gtgtagcaaa aaatgatgta 13380 13440 tatttataaa totatttata ooactatato atatgtatat atatttataa ooacttaaat tgtgagccaa gccatgtaaa agatctactt tttctaaggg caaaaaaaaa aaaaaaaaa 13500 aaagaacact cctttctgag actttgctta atacttggtg acctcacaat cacgtcggta 13560 tgattgggca cccttgccta ctgtaagaga ccctaaaacc ttggtgcagt ggtggggacc

```
acaaaacaac cagggaggaa gagatacatc attttttagt attaaggacc atctaagaca
                                                                    13680
                                                                    13740
gctctatttt ttttttgcca ctttatgatt atgtggtcac acccaagtca cagaaataaa
                                                                    13800
aaactgactt taccgctgca atttttctgt tttcctcctt actaaatact gatacattac
tccaatctat tttataatta tatttgacat tttgttcaca tcaactaatg ttcacctgta
                                                                    13860
                                                                    13920
gaagagaaca aatttcgaat aatccaggga aacccaagag ccttactggt cttctgtaac
                                                                    13980
ttccaagact gacagctttt tatgtatcag tgtttgataa acacagtcct taactgaagg
taaaccaaag catcacgttg acattagacc aaatactttt gattcccaac tactcgtttg
                                                                    14040
ttctttttct ccttttgtgc tttcccatag tgagaatttt tataaagact tcttgcttct
                                                                    14100
ctcaccatcc atccttctct tttctgcctc ttacatgtga atgttgagcc cacaatcaac
                                                                    14160
                                                                    14220
agtggtttta ttttttcctc tactcaaagt taaaactgac caaagttact ggctttttac
                                                                    14280
tttgctagaa caacaaacta tcttatgttt acatactggt ttacaatgtt atttatgtgc
                                                                    14328
aaattgtcaa aatgtaaatt aaatataaat gttcatgctt taccaaaa
<210> 13030
<211> 14328
<212> DNA
<213> Homo sapiens
<400> 13030
                                                                       60
ttaggttatt ggagtgatga gtaaagaata cataccaaag ggcacacgtt ttggacccct
aataggtgaa atctacacca atgacacagt tcctaagaac gccaacagga aatatttttg
                                                                      120
                                                                      180
gagggtaagt aagggaaatt tcttcagacc cattaaatgt taggaaaaaa tggagctaaa
agagctgggt ggctcacctt tctcatcctg tgctgagaaa tgctggggct cacccataag
                                                                      240
                                                                      300
tatccagcat ccccatggac acagggaatt ctgaacaaat gtgatgaaac cgatgaaatg
                                                                      360
tctggcctgt aggtggttag tgatggagat acgggctata tgtgaatctt gatttttgca
attcattaga gctttgtaat gaaaggaaac agtttgttgc ttgctttaag gataggttca
                                                                      420
                                                                      480
tttgcatttc tccgcaagga agtagtaatg agttaccaag ccttagattt cacccctttt
                                                                      540
tgatttcttg ctgacttaac tttaattgaa tggaagagtt atcacaaatg aattatcttt
                                                                      600
ttggtttttt ttttttgag atggagtctc actctgtcac caggctggag tgcaatggca
                                                                      660
tgatctcggc tcactgcaac ctccgcctcc caggttcaag caattgtcct gcctcagcct
                                                                      720
cccgagtagc tgggactaag gtgcgcgcca ccatgcccag ttaatttttg tatttttagt
                                                                      780
agagacgggg ttccactatg ttggccatga tggtctcgat ctctggacct cgtgatccgc
                                                                      840
ccaccttggc ctcccaaagt gctggaatta caggcaagag ccaccgcgcc cagccaggaa
                                                                      900
tgacaaatga attaccttat aagtaaatgc cattaaggaa ggatagctgg aagatgggtt
                                                                      960
gaggggaatg gaggaccaca gaactagtcc tatttaaata catgtgcatg gtaaaatgat
                                                                     1020
tccatttgac aataggttaa ttatctcata gcataaggaa aatgcttaac agtcatatgc
                                                                     1080
aagatgataa gctttcctat agcatccaac caaaagatct agccagtaca atttcctttg
                                                                     1140
ctatattagg gttagaaagg cccccagagg tgaaccaatt agatggaatc cttgaataaa
                                                                     1200
acactggatt agcagtgaac agaaaaaagt cagattgctt tccttcttcc catagatgtc
                                                                     1260
tcagggatat ttagtttcct cagaagataa agaatttagt aagcgttttt ttgtgcatac
                                                                     1320
ttacatgaaa tgtacattat ttgaattctt taaaaagaaa cagctgcatg ataacaaaaa
                                                                     1380
ttgtgttatg cttgctttag ctggtatttt tgcctagaac gattatatcg ttcggacaag
                                                                     1440
aagctattcc taagaaacaa tatttttaat ccaggaagtt tttcattttt agaaatttat
cttactattt cccaagcaaa agagggtagt tacagattca ctaagaatca tgtgctcaca
                                                                     1500
atttttattt aataattatt cctccttaaa atatattaat cacctgactt acaatggtgg
                                                                     1560
                                                                     1620
aaccatgagt gcatttttgc ctttattgtc aataacgtct tctcagaagt gagccacaaa
                                                                     1680
qqtqcataqt tcttggagtt aaaggtctga attaagacaa tccagcataa gtctcattaa
                                                                     1740
tqtqtqatta ttttgagaaa aggcaagaag tacctaagaa tctccccctc actgtccagt
                                                                     1800
tccctgtttc atttaaagat tcactgtaag taactgaaag gctttccttg ggaggattta
tttgaatcag tctttcacat gcaaaggata ttgtagaaca tctcgttttt gctggcagga
                                                                     1860
atatgaacat ctgttgtgag gaaagaaaaa gtttcatgca aattacactg ccaaagaagg
                                                                     1920
gatgttcaag ttgagaaacc agtgacattt cttgtaactg tactatgaat cagcgcattt
                                                                     1980
                                                                     2040
taatcttcta gataatatat ggaagtgcag gaaggtggta ggaaacggtg ttcattttac
                                                                     2100
atatgcgtta ttttattctg tgtgagtgac ttcatggcac cgacattgct gtttttaaat
gaggatacag taaattgcag teegaggaag getaaetgga atcaacatae eegtagettt
                                                                     2160
agaaagcagt ttccgcacca gcgaagagta caagagcgat ggaaccccat gttcctggaa
                                                                     2220
gtttgcacat cagagtaaac aaacttgaaa acccctcttg atagcagaat tcacccagcc
                                                                     2280
                                                                     2340
ttgttccatt ttctcttaac aaaacacacc gcaaaagctc tcacaagctg ctttgatgaa
```

2400

2460

gccacatgta tttccccctt cacaatttac aggaagttac tcttaaaaga aagtgattct

ggtgtttacc gcctgtgtta aagggacaga gttccttttt atttctgata acgtttgagc

2520 gaaatacaga aactatctgt agactagcat agtcggtacg tgagtaagga aaagcaataa 2580 cctgctgtcc ggtgagcaca aaattcctgc tacgaacagt gccttactgc tgcttggaga 2640 ctgcaagtcg cagatcacac taggtattga ctgattgtat aaggaaattt cttaaagtct 2700 aaagtaaagg tggtacctcc taaaaagagg ggaagagaga aaactttgtg tggaaggata 2760 aggagtgtgt ttatagtttc agtaagagtg tacgttttaa tttttcttct tcctctgcct 2820 ctttgccaag tagcctgagt gcatctgtta tccagaagta gtattactct aggacaaact 2880 tcaaattctt cattctgcgt tgcctttaag gaacaacata ctttcttcct gttcttttc caaaaacaca cgcctatggc tctgtgtgtg gtgttttagc cagcctcctc ccagataagg 2940 ggttcccttc cctcctttgc attgaaagga aagtgcaagt ctggacatgt ttatcaagag 3000 gaaaagtgac ttctcagtaa tagactgtca aattcgggct gctgcccgag tgttcgcttt 3060 3120 gttatggcag gtgaagttca cctttgcccc acccagtgtt tccacaaaaa ggcaaggttc caagtattca tatgaacaag tgttacttta ggacttggag ggttgggggt ggaggatgtt 3180 3240 tqcatagttg aagccttggg cgggggtgta ggaaacggcg agtacagagg ccatagaaaa 3300 agctaagact cagtttgacg tcgtcagccg gcttggtctt ctacccagtg actcaaagca ctaaaagtca gcataatcgg aactgaagtc agtagcatcg cccatttgcc attcactgca 3360 gtagcaaaag tagtactctg tggtgggtta atcggtttga ggcagctcct taaatgaaca 3420 3480 tttgtgtttc atttttctgt tattttcccg aacatgaaaa gacgataaaa ctgaaatgga 3540 aaaggtaact gacaaaagtg tgccttacct gtttccgccc tgatttctgc tgattcaaga 3600 ctattctggc taaactgatt ggattctttt tctaactagg cagtagggga tcagaaatca 3660 cacacggtac cggctgtgtt tattctgaga ggtgctgggg agctttgggt ctgacttcct 3720 tttacatgcc tgtcttctct tttggacaga tctattccag aggggagctt caccacttca 3780 ttgacggctt taatgaagag aaaagcaact ggatgcgcta tgtgaatcca gcacactctc 3840 cccgggagca aaacctggct gcgtgtcaga acgggatgaa catctacttc tacaccatta 3900 agcccatccc tgccaaccag gaacttcttg tgtggtattg tcgggagttt gcagaaaggc 3960 ttcactaccc ttatcccgga gagctgacaa tgatgaatct cagtaagtgg attacagaac 4020 aaaaaaataa aaaatgccag taatgtcggt tctgcccctt tgaactaata acatgttgtt 4080 taattatacg gctttgtcat gtgttggatg aagtaggtgg cttaagctag ggactaggaa gaggaaaaac attttttgag tccctattaa ctattaggaa acttgatcat ttaaaagtat 4140 atatatatat gaggagctac cttgagtttt gaattcagga tgttacagga agaaatatat 4200 gtccaattct aatttatcca aaagcagttg ggagaattac agggattggt ccagacatgc 4260 4320 tgcgtatgca aggtatagcc ctcatctgtg gtactttggc agggcttaga ctgcatcaaa 4380 atatttatag atgtacattt gagtgtacag ttaggatctg atgtggaaca ttgtaagatc attgctagaa aaactttgtc ataatttttc aatattattc taagtgaata accgtaaaga 4440 4500 ttttacatct tagcttcctt ccttacagta aaaaaactat ctgatctctt gatcagtatt atagtagcca cctatcactt tatcttaaca aattctcaat tccttaggtt tatgtgcttt 4560 tacttctttt atttgattaa aattgctgtc atgacctctc tctgcagagg gctgcatcat 4620 tttggtcatt ctcaagtgat ctctttgagc aatttaagaa ttgccataag attctaacct 4680 4740 ctgctgtaac tatggttgtg tgttcttggt tagaccacta aatcttatta gcagttttaa aaattattcc ttttggttta gaagttaaga ctaaatgctg aagtttttgt aacttttggt 4800 4860 tttgatatca tttcaaactt aagaaaacat ttgaagaaaa ggacaaagaa tttccactta 4920 ccctttaccc aggtttacca gttattgata agtatatcca tttgctttac cagaaggcta 4980 acttgtttta gttctcattt tcacctttga gacatttgga ataaatatca atgttaacat 5040 aaattggaat tttgactttg attttaggac caatgaacaa gccaagtact taccctagtc 5100 atatataatc caactgtatg gttatttggt attcattcca cacttcattt tacttgatct cccttaagat tgcaagattg tgtttgcagt ttttctgaaa atctggggct ataaaagcat 5160 caggacctcc cccgtagggg aggtcgtgtg tttggggtcc ttacacaaca ggttaccctt 5220 gagetteagg aaaagaactg geteteagtt eeceagttee agettaatgg gtetaattag 5280 gtcctgacca aaaaggtggc agttcttttc cctcatgtct cttcagcgct ccccgagact 5340 ctggagactc tgtcatatcc ctagggctga gcctcccagg aaccattcgg ctgttgtggc 5400 atctgtgtat gccatgccca gtgctgagga cctagtaaca aacgacaaat gcacaggcac 5460 agtggcattt ttgtggaact cgtattccag ctgtgcgtct cagaagaagc gcacagctcc 5520 ctcctggctt tcttaacata gtgagccact tccacttaag ggtctcctta cattccttga 5580 gtttaatcat tcatggattc agaggaaagt cttttgattt ttgcttttct ttaaacagtt 5640 catttgaggt gacctacccc agtgactttg caccaaccac caagaaactt ttttgcatgc 5700 ttcccgcacc ctgtgccaat caagggaagg gtttaaaggc ctggcgtttt tattcctcaa 5760 5820 agaaaggttt tgcacagtat tttaaggttc aagtgcttct actttgtgtt cagaagcaac tgtcatatat actgtgaaat gacacctttt atttatccct ttttatttat gcagtatgtc 5880 5940 cccttttatt ttggcagaat tttttctaaa tggtggttta acattttcaa gcacatttca 6000 ttgtccaata ttcatagtaa agaatgagag ttaacaataa ccagtcacat taaaacaaga ttcctgctgc cagttgtgaa accggttgtc ttaggcgtgg cagctgatga ttgagactgt 6060 gatcaggaaa atttccacta tttcatcagg cctaataggt agattgtgtc tccaaatgaa 6120

6180 ctgtgttggg tttccatgct taaagcacaa tagaggtggt gcaagaatct ccatgagggc 6240 ttaaatggca gtgatggttc aggcggtaga gtttggagaa gaagggattt gaaacaaacc 6300 aaaqqaaaqa aaagtaagta gccagaaatc acaaaatggc atttttctaa aaacaaagga aaaqqaataa aagaactaat aagtttgaaa cccctacccc tcccaaattt ggcagggggg 6360 gaggtatttt ttttctatct atctaactaa cccatctaga aaacagttga ccaaattata 6420 qacttctaaa tgttaatctg ctttctcagt ttcagttgaa aagagacttt gttttgccta 6480 6540 ctgcagaact tctaggttct ttcttatagt cttggggttc ttattataga tcgaaaatgt 6600 gagtcggcat aattaagcca ttcggagtct tcagaagcag ttcactcttg aaatgactcc gtccgcctac agccatttaa gatttcagaa caaaaacaga tcttgatttt ctttttcatg 6660 ttaactcaag ctgttgctga gtgggagagt cagaaatgac accagctcca ctgattactc 6720 6780 agctgctgaa ggatgatttt ttaaaatgca cctttactgt atatggactt cctaatttcc 6840 acctgtagag catcttaggg aggctaacat gtcactctgg atgttctttt agaataagat gcaaatctat ttttctgaag gcattagaga tagcaaacat ttattgtgag tttactatat 6900 6960 actaggcact gtgctaagtg ttttgcatag aaagtttaaa attctggctt ttttgttggc 7020 ccaatcataa gtttcatatc agttcaacat tcaaattata ttaaggtact taagaagaat 7080 ccctggctaa atgtgagggg cagtgccaca gatggactga aactttatgc ttattgcaca 7140 tttatgctat tattatttgt tgaattatag aaccaaggga gtgtggaagc cactggaaaa 7200 aatatgagac ttagatacat aatttgagta aaaatggctc aaagtcatga gggtaaagtt 7260 ttttgtattt ccattttatt cgagcggcat cgtttttaaa aatcattatg aatttgaccc 7320 7380 agatgccttg cctatcagtt ttcaagctta gttgtctttc tcatccttta ccattttagc 7440 tttaaaaaac aaaagtgaca attagaactt cctgcctgct gggcctcact gaaagaccga 7500 tattggcctg ataaggagat atttattttg ttttagtggc ttcagaaatc cctctccctc 7560 agcaagettt ccatcacgge ccccccgtca gcatcttccc tgatagcgtt cttctctgtg tttattctgg ggcttcaggc tcgcccagga ggaactgata accgctggca ggagataaca 7620 ttctctaagg ggctctcaaa ttggaatcga atccctcaag ccagtcagcc tagagaatac 7680 atttaaaggg ttcagttctg gagtttcaca gagttcattt ctagacctat cagatagcaa 7740 gtgtggagtt ctttctcaac taaattcaag cagagacatt ttttagacga tgaaggatat 7800 7860 ttgcacaaag gcttcagcat gatcccccaa acctgctgcc tctgaaggca tctccacaca ttgacagcca atgccttcag tgcgttccta gggcaggtgt cctggcttga gtgactgtcc 7920 7980 tccaataatc agagctcaaa ctaaacatcg tatgttttac ttttggtttc caggcaaggc 8040 tgagcaggga attttcagtt ttccctgccc agatgggtgt tttttcctga aggcatcatt tattgtgtag cgaggagaca gggctggctg tggcagggat agtctagaac tgtcctcatt 8100 gctgctgttc ctaaatagta tctttaccaa gtaataacgt gccgtctttg ggaataagtg 8160 ctttcctctt agcctgttct gttttcttgg gtgcgctaag taattgaact ggctcaggaa 8220 gtacctattg tggtttggca gaggtgactg tcacgccttg tgactccagg ggccagcact 8280 8340 gctgggatcc tggctagacc agacagagcc ttggtgaagt gcttaggctg tctgcacatc gcgaggaagg tggtattcac ttcgctaagc tccttggcat aggcagtttg aacagggctt 8400 tatcaaattc gtattcaaca agagtagaag cgaaaattga tgactgtgta ttacttgaaa 8460 tgagtcttaa tctttcacat ttagttctca gggtatgctg atttccttta ggtaaaccat 8520 gaacatcaga aagactttta ttaacctatg acagggtccc caccccagta tttttccact 8580 ccattaaaat ggaagttttt ttttttttt tcttttttga gacagagttt tgctcttgtt 8640 8700 gcccagtctg gagtgcaatg gcacaatctc ggctcaccac aacctccacc tcccagattc aagcgattct tctgcctcag cctcccaagt agctgggatt acaggtgtgc gccaccacgc 8760 8820 ccagctaatt ttgtattttt agtagagatg gggtttctcc atgttggtca ggctggtctc gaacttccga cctcaggtga tccgcccacc tcggcctccc aaagtgctgg gattacaggc 8880 aagagccact gcatccagct taggctatct tactccagcc taaacagcaa ttttctatca 8940 taaggtctgt actaatgaaa acagaatcac ccaaggctgc tgtttgttct gtctgtgctg 9000 ccattgtccg cattttgctg aggaggaaac ggaactgcac ttttgagtga gtggcccaga 9060 gccttctaga atgagagtgc gttggaagcc agatatgtgg cgattgtgtc gccagctgtt 9120 actcaggttt tctcaagaag gaggagcaac tttggcagtt ttgcttcagt tctctctagc 9180 cctctgtgta atcgcccctt tttctttatt tcagcacaaa cacagagcag tctaaagcaa 9240 9300 ccgagcactg agaaaaatga actctgccca aagaatgtcc caaagagaga gtacagcgtg 9360 aaagaaatcc taaaattgga ctccaacccc tccaaaggaa aggacctcta ccgttctaac 9420 atttcacccc tcacatcaga aaaggacctc gatgacttta gaagacgtgg gagccccgaa 9480 atgcccttct accctcgggt cgtttacccc atccgggccc ctctgccaga agactttttg aaagcttccc tggcctacgg gatcgagaga cccacgtaca tcactcgctc ccccattcca 9540 9600 tcctccacca ctccaagccc ctctgcaaga agcagccccg accaaagcct caagagctcc 9660 agccctcaca gcagccctgg gaatacggtg tcccctgtgg gccccggctc tcaagagcac cgggactcct acgcttactt gaacgcgtcc tacggcacgg aaggtttggg ctcctaccct 9720 ggctacgcac ccctgcccca cctcccgcca gctttcatcc cctcgtacaa cgctcactac 9780

9840 cccaagttcc tcttgccccc ctacggcatg aattgtaatg gcctgagcgc tgtgagcagc 9900 atgaatggca tcaacaactt tggcctcttc ccgaggctgt gccctgtcta cagcaatctc ctcggtgggg gcagcctgcc ccaccccatg ctcaacccca cttctctccc gagctcgctg 9960 ccctcagatg gagcccggag gttgctccag ccggagcatc ccagggaggt gcttgtcccg 10020 10080 gcgccccaca gtgccttctc ctttaccggg gccgccgcca gcatgaagga caaggcctgt 10140 agccccacaa gcgggtctcc cacggcggga acagccgcca cggcagaaca tgtggtgcag cccaaagcta cctcagcagc gatggcagcc cccagcagcg acgaagccat gaatctcatt 10200 aaaaacaaaa gaaacatgac cggctacaag acccttccct acccgctgaa gaagcagaac 10260 ggcaagatca agtacgaatg caacgtttgc gccaagactt tcggccagct ctccaatctg aaggtaggcc ttgagagaga gcagtccaag gggctgtgag tgcatgcttg tgtttgtatt tagcttgctt tccatggggt atcgattgca tttgcagtag tatgagcccc cggttgggga 10440 10500 tagtgggtat ggattccgcc tggcttttgc cacttctagc tctttgactt tggacaagtg acttcccttc tcctgatttt cttctgaata ataaaaaaat taggggtttg gactagaaga 10560 ttaggtgaaa ctccctgcta gcctgtgatt tttgtgcttt taagaaaaac accattctga 10620 10680 aaacatgaag atttcttctt tttaagactg tcttgatgct tttcttaaga tatttgcatc 10740 aacacttgag tcttggagca gaaatgttag gtctcagagc cagcttgaga gcagagctaa 10800 cacatgtggc ttcttcccag gtccacctga gagtgcacag tggagaacgg cctttcaaat 10860 gtcagacttg caacaagggc tttactcagc tcgcccacct gcagaaacac tacctggtac 10920 acacgggaga aaagccacat gaatgccagg tgcgcagtat tttctgggta gaccttctga cctttgtaga aaatgtctgt gagtcaccct cccatgtcct atatagcccg tagttaaagc 10980 caacaccaga ttctgcgttg tcccatcctg gactgatggc actatggtcc ttcccagtac 11040 tttgtatctg ctgatgactt gagatggcac agccagcttc cagtgggtgg gaaaatggta ggggaaataa acagcccctc gtgtgctgtg tgcccacatc cccccgtttg cttaatacca 11160 cactggaggt gccacaagga ggcttctcac ctcctaggtt gctgggcgtt ggccggtaag 11220 cctgcccctc ccgttggcaa ctcttaatct tctggccttc ctgtctccct tccctgctgt 11280 ctctctcccc tacactgtag gtctgccaca agagatttag cagcaccagc aatctcaaga 11340 cccacctgcg actccattct ggagagaaac cataccaatg caaggtgtgc cctgccaagt 11460 tcacccagtt tgtgcacctg aaactgcaca agcgtctgca cacccgggag cggccccaca agtgctccca gtgccacaag aactacatcc atctctgtag cctcaaggtt cacctgaaag ggaactgcgc tgcggccccg gcgcctgggc tgcccttgga agatctgacc cgaatcaatg 11580 aagaaatcga gaagtttgac atcagtgaca atgctgaccg gctcgaggac gtggaggatg acatcagtgt gatctctgta gtggagaagg aaattctggc cgtggtcaga aaagagaaag 11700 11760 aagaaactgg cctgaaagtg tctttgcaaa gaaacatggg gaatggactc ctctcctcag ggtgcagcct ttatgagtca tcagatctac ccctcatgaa gttgcctccc agcaacccac 11820 tacctctggt acctgtaaag gtcaaacaag aaacagttga accaatggat ccttaagatt 11880 ttcagaaaac acttattttg tttcttaagt tatgacttgg tgagtcaggg tgcctgtagg aagtggcttg tacataatcc cagctctgca aagctctctc gacagcaaat ggtttcccct 12000 cacctctgga attaaagaag gaactccaaa gttactgaaa tctcagggca tgaacaaggc 12060 aaaggccata tatatata tatatatat tgtatacata ttatatata ttattacac 12120 ctgtgtctat atatttgccc ctgtgtattt tgaatatttg tgtggacatg tttgcatagc 12180 cttcccatta ctaagactat tacctagtca taattatttt ttcaatgata atccttcata 12240 atttattata caatttatca ttcagaaagc aataattaaa aaagtttaca atgactggaa agattccttg taatttgagt ataaatgtat ttttgtcttg tggccattct ttgtagataa 12360 tttctgcaca tctgtataag tacctaagat ttagttaaac aaatatatga cttcagtcaa cctctctct taataatggt ttgaaaatga ggtttgggta attgccaatg ttggacagtt gatgtgttca ttcctgggat cctatcattt gaacagcatt gtacataact tgggggtatg tgtgcaggat tacccaagaa taacttaagt agaagaaaca agaaagggaa tcttgtatat 12600 ttttgttgat agttcatgtt tttcccccag ccacaatttt accggaaggg tgacaggaag 12660 gctttaccaa cctgtctctc cctccaaaag agcagaatcc tcccaccgcc ctgccctccc 12720 caccgagtcc tgtggccatt cagagcggcc acatgacttt tgcatccatt gtattatcag 12780 aaaatgtgaa gaagaaaaaa atgccatgtt ttaaaaccac tgcgaaaatt tccccaaagc ataggtggct ttgtgtgtgt gcgatttggg ggcttgagtc tgggtggtgt tttgttgttg 12900 gtttttgttg ctttttttt tttttttt ttaatgtcaa aattgcacaa acatggtgct 12960 13020 ctaccaggaa ggattcgagg tagataggct caggccacac tttaaaaaaca aacacacaaa 13080 caacaaaaaa cgggtattct agtcatcttg gggtaaaagc gggtaatgaa cattcctatc cccaacacat caattgtatt ttttctgtaa aactcagatt ttcctcagta tttgtgtttt tacattttat ggttaattta atggaagatg aaagggcatt gcaaagttgt tcaacaacag ttacctcgag atcggcttcc ccttgtgcag gaaagatttc ttatctaatg atttgcttct 13260 atagaggaga aaccgagtaa atgtgctcca gcaagataga ctttgtgtta ttttatcttt 13320 tattctgcta agcccaaaga ttacatgttg gtgttcaaag tgtagccgaa aatgatgtat 13380 atttataaat ctatttatac cactatatca tatgtatata tatttataac cacttaaatt

```
aaagaacact teetttetga gaetttgett aataettggt gaeeteacaa teaegteggt 13560
atgattgggc accettgect actgtaagag accetaaaac ettggtgcag tggtggggac 13620
cacaaaacaa ccagggagga agagatacat cattttttag tattaaggac catctaagac 13680
                                                                 13740
agetetattt tttttttgcc aetttatgat tatgtggtca cacccaagtc acagaaataa
                                                                  13800
aaaactgact ttaccgctgc aatttttctg ttttcctcct tactaaatac tgatacatta
                                                                  13860
ctccaatcta ttttataatt atatttgaca ttttgttcac atcaactaat gttcacctgt
agaagagaac aaatttcgaa taatccaggg aaacccaaga gccttactgg tcttctgtaa
                                                                  13920
cttccaagac tgacagcttt ttatgtatca gtgtttgata aacacagtcc ttaactgaag
                                                                  13980
qtaaaccaaa gcatcacgtt gacattagac caaatacttt tgattcccaa ctactcgttt
qttctttttc tccttttggg ctttcccata gtgagaattt ttataaagac tttttgcttc
tctcaccatc catccttttt ttttctgcct cttacatgtg aaaggtgagc ccacaatcaa
cagtggtttt atttttcct ctactcaaag ttaaaactga ccaaagtact ggctttttac
                                                                  14220
tttgctagaa caacaaacta tcttatgttt acatactggt ttacaatgtt atttatgtgc 14280
aaattgtcaa aatgtaaatt aaatataaat gttcatgctt taccaaaa
                                                                  14328
<210> 13031
<211> 1374
<212> DNA
<213> Homo sapiens
<400> 13031
                                                                     60
tttaaatata tatatttata tctcaagact gctctgagat actcttgtcc ccagtagttt
                                                                    120
tactgccaac aaataccaat aatgacaaac ggtgattaaa agggcagata gatgtaaatg
                                                                    180
aaqqcaqaqq aqqaqqatqa aatgaacatc tgcttttttc agctctctga cagaaattct
                                                                    240
taaaqqacca aaaataacac tcttgtttca acttatgtta ggtgtaggaa aattttcttt
                                                                    300
ttttctcttt ccagtctgag tatgcttcat tgatttgtat attgaatact aaattgtttt
                                                                    360
agaaaaaaaa atcattggct gataagacac ttaaatgaga aaagctagtc tgtcacaggc
                                                                    420
atqtaqqtqt qccatatcta tttaaataga ggtttaaatt attgatgaga cttaatgagg
                                                                    480
aactggtgta tattgtaacc aaaattgtag attccactgt gaacaatctg tgcatggatc
gattcacata tttgagtcta ccatttcagg tacatgaatg tacaggagct actgggaata
                                                                    540
taaaaactgg aaaataaaca ttatcatcta ttaccactcc ctcctccttg gtccatttta
                                                                    600
gtaaagaatt cagtaaagtg ataggtaggc tatcttgaat gagaagaaaa taaaactagg
                                                                    660
aaagtgagag aataaaaacc aaaacaaaac tgtaactgca aactgttgta aaggactact
                                                                    720
cacagaggag ttctattgaa tagtgacgaa ttgcttcctg attcacggtt ggtgattttt
                                                                    780
ttaccccttc aaagagaaat ttattattaa ggaggaactg gtatagttaa catgtttctt
                                                                    840
                                                                    900
tagcaaggcc ccacaaagtt aaaatgtgtg atgcatccag tctgaggtca tttcctcaga
                                                                    960
tcttagaacc tacagctttc ctccgtataa acttaatttc aaaggagggc ttttggccag
gcatggtggc tcagcctgta atctcagcac tttgggaggc cgaggtggga ggatcgcttg
                                                                   1020
agtccaggag tttgagacaa ggctgggcaa catggtgaga ccccttctca acaataacaa
                                                                   1080
caaaaattag ctgggcgtga tggtgcatgc ctgtagtccc agctactcag gaggctgagg
                                                                   1140
tgggaggatc tcttgatccc aggaggtcaa ggctgcaatg agctaagatc aagccactgc
                                                                   1200
attccagcct gagtgatagt gggagacctt gtctttaaaa cacaacaca cacacacaca
                                                                   1260
cacgagggcc tttgaccact cttgagtaga agactcgaga agaacaaagt agaaggccag
                                                                   1320
agaagaacaa agttacttga aagatctctt attaaagaga atgtacaagc tatg
                                                                   1374
<210> 13032
<211> 3331
<212> DNA
<213> Homo sapiens
<400> 13032
                                                                     60
tctagagctt ttgctccatt catttacata tcattttatt aaaaacttac taagttcaaa
                                                                    120
acaatgttaa aataagttgt ccctgccctt ggggagctca gctaagtagg ttttgttttt
catatttctg ctgcaagtgc ctccgatgcc tgtctgttgc tccttaggac tggccaacca
                                                                    180
agcgcaccag gtgacacttc agtgaatggc cctgtatgac gggtgacgtc tgctgct
                                                                    240
gactgaggac tgcagaccgc caccactcag gggctctgga ggggtcagct ggagcccacc
                                                                    300
aagctgtcac tgctgcactc actctgcaag ggatcaggac cagcaacctt tatattctag
                                                                    360
```

420

attctaagac attgtacaga gaaattcaga agtgtaaaaa tattgcacat tgacaaatac

```
480
caagaatttt tgcgtatgtt tatattgtat tgttctaaat aatgggtagc ctgtgaaata
agatettgee acceatgtaa taatagtagt aatactatag ttaaaaatgge tgtaagaata
                                                                      540
                                                                      600
gttttataaa agtgaataca cagatctatt gtatttgaaa cataactttg acaattatta
                                                                      660
gtgtgaccaa agtattaggc ggttttcata catttttcac cttgtacaaa attatgaatt
                                                                      720
catttttcct ccaggccgac aaggagttgt agaatgaaaa tgccctctaa gtgttatttt
                                                                      780
qqttqttcta acttacaaaa gtgattttga ataagaaata tttggtgttc tttttataac
cagtttttga ttggtaattg ttttctgtat tgtttaaaac ggatcaaaaa tgtaagtcta
                                                                      840
ttggtagaga ttaagtaaag tatttattgc tacatcatag ttgataaatt gatgttatcg
                                                                      900
taaagccata tgttctgttc aagtcttgtt tgcttgaaat gattattcct acaagtgaaa
                                                                      960
cactagacta tttggagtgt atatggcttg tgttttggga ttttttttt ttttttggc
                                                                     1020
ttttgttttt gtttgttttt ttgtttcgtt tggtagttca tctgcctttt aacccattca
                                                                     1080
                                                                     1140
ccaaaattta ccttgttaac aagcatcacc aatgaacatt tcagagcaat ctgcatattt
                                                                     1200
aacagaccta aaataaatcc tattaggcaa gtcagttgaa aatgctcgtg ctgctaatgg
aattagagtg cgttcatttt acaggctagt attttaaaag tagaaatcaa aatctggcac
                                                                     1260
                                                                     1320
cgaagcatgc taattgttta ctgtaccttg tgaggttttc actcataaat ttaaaccagt
gtattttttt agaactggtt tgtgtatata tatagtgatt atggatacta attcaatgta
                                                                     1380
                                                                     1440
atttataatt ttctatgtca atacaaaaat acatcacagc cttctcaaac agctcaagca
                                                                     1500
atatattgta tattgccata tcgtctggtg aaagggttaa attacttcac ctcttgcact
tttagatgca aatcagtttt tcatttctgt aatagaaaat tattcacgta tttttacatc
                                                                     1560
atttgttttt cctgaccagt atttaaaacc aaaaggatat tctgaaaaat ggccaacaat
                                                                     1620
ttttttagaa gtagcatccc aagcagcgtg cctaaacatt acattgcata tggaaataaa
                                                                     1680
agaatcaaac gtctaatgcc ttattatttc tgatttcctt tttcatttta agtggtgtgg
                                                                     1740
                                                                     1800
agattccagc actcccagga cagtggagtc agcagtaagc cctgggacag gtggcaaggg
                                                                     1860
tgggtccctt gacctttgca cgcctcctca ggaaccccct ttcccgggtg agcccctctc
                                                                     1920
tqaaqaqact gtccttgggc ctcctctgga agcagcaccc ccagaggaca gggctcctcc
                                                                     1980
tqcttqcctc agggctgcct gacttgaatg gcgttggacc tcgggggatta ctggtagata
                                                                     2040
atatqctctq qtctcqcctg gtggtgagtt ttgccagcca tggccagggt ttggctccac
tggtggcaca cgtggcctcc gtggtatgga cctggtggct tctccatccc actgtggcct
                                                                     2100
                                                                     2160
ctgtggtatg gacctggtgg cttctccatc ctacccaagg taacagtgtc ttgcttcatc
                                                                     2220
ccactgactg ctgggagaga gcctctggga cttttctttg gggcatcatt ttgttttgtc
                                                                     2280
tttcgtagca gggaaaggat atgacaatgg ggaggacagt tcttttggag gttggagggg
ccaagccaag gacaggagca agtgtgccct cattttgttt ctacttttaa tttctgtgtg
                                                                     2340
                                                                     2400
ttggccatac tgaattatga gactaacaga tgtctacaat acaatacctg tattcaaaat
aacaaaaata aagcctgatt ctttgtttct agaaatctct tgtaccttgc ttggattttt
                                                                     2460
                                                                     2520
aatgggttga tgtgtcctgc cattaggtcc cgtgttacac taggtcctgt gtgagaaaga
                                                                     2580
ctgcactgca ctgtgtgaga gagtggcctc tgggatcagg ggctcatcct ccccactgcc
                                                                     2640
atagcccagg tgcccagaag aggtggtgcc tgacaccggc tctcagtctt gggacggctc
caagggttcc tctggacctc cagcttgtta cttttatgtg cagcgtgtcc cacctatgtt
                                                                     2700
gtttggctcc cagcccaaca agtcacagtt aggtgctcca taatgattct taagatgtga
                                                                     2760
tgcttatgta gctccttatt ttgcattttc ccttcacctg tttgcttaaa aacatgttct
                                                                     2820
                                                                     2880
ctagtcatta cctcctagca ggtcctctgc acagcctttt gctttctggg cacgcatgca
                                                                     2940
tccctccgtg cctgggccca caggcatctc acacagcact gagtacacac ctctgcatgc
tgggcccgca ggcagctcac tctgagctgt ctgggtaccc acctctacat gcgagtccat
                                                                     3000
aggcatctca ctggcaatcg tgtaaccagg gcacaagctc tccagccggg tggctcatca
                                                                     3060
cagcccaact cagccactca tgatggtgt accttaggca ggtcttggtg tcagcttttt
                                                                     3120
ctgttgggtg gggaaacaat gggaacaagt tcaaagactt gaatagcttt ttacttacgg
                                                                     3180
taaatgttta acaaacatta gctaactttt actcacttaa ccccataatg tcacctgcta
                                                                     3240
gcctttctaa atttccactt caatcccacc tattatttaa aacctttacc ttcagaaaag
                                                                     3300
ttgagcatct taatcagatg ggtttcactg c
                                                                     3331
<210> 13033
<211> 11585
<212> DNA
<213> Homo sapiens
<400> 13033
ttgtgcactc attcatttaa cagacattta ttaagcgtct acaatgtgcc aggccctggg
                                                                       60
gacacagage tggagaatgt acagteeetg eeetcaagga geteacagte tggggggaca
                                                                      120
gacatgtaaa cacatgagtt acaacgcgct gcgtgaagtg tgtggcagag gtataacaaa
                                                                      180
gtgctgtggg gcacaacaga gcgaccagtg aactcttcct gggcaggggt cagggaagcc
                                                                      240
```

300 ttcacagatc agtcaataaa tacggtgcca tgggagtgcc ttgcacacca cgggcactca 360 catcttgaat gctggtccac tggaggccct tgggttgggc gggagcaagg cctacttctg cttcctcagg acaacttccc cacctctgtc ctgggaccac ctgcccgcct gggcctgcag 420 480 tgactaagga cgctgctccc actccagggg ccagtgacag agagcagcta tacagagggc ccaccccgca ggatccttga caggagctga gacagaacaa actgctgctt gtctccctac 540 cctgggggct gtgatattct tggtaacatc tctgagctgg tctgtgaggt cacttcctct 600 660 tttaacactg ttgaggagac tccaaaccct gtcttttcct cgtcttctca tgtcgattgg gcaccagcca ttctcaggca ccagagcaca gccccacacg ggtgccccat cagacagggc 720 780 tgcccacage agectectae acetgaactg ggtttetetg cacacteaca geegteteae cagctcaatg agctgctgga tgtttttgtt ttggttcgac aagccgttcc tgatgttttc 840 900 gagtaggcat ctcttcaatt caaatatggc ttcactgtag gccaagctca ctgcggccat 960 qqqaqqtqct ccgtgccaca ggcctgggat gtgccagatg tgctgcttct cagggtcgca 1020 gaaggccagg cctgccagtg cccggaagcc gtcgccctgt ttctccatct gggctgcagc 1080 cctgctcagg tcaccaggtg gatccaggag ctgtctcttg tctctgggcc tagggccggg 1140 aacagataca tcatgaaggt tctggtatac aaactggtag ttgggcatgt gccccgtttt ttctaacctc agaaatgcat gcagaatagc tgctggaatg tccttggttt cagctagact 1200 1260 gatcacggtg acattgctca gtcccatgag cagagtggcc aaggaagcct ccagctcaaa 1320 tctgtcccca gctgacgtca aggccccacc tatcaagccc ccggagtcta tcaccaggat 1380 gtggtcacag cccaggtcct ggctgaagcc ctcagccact gtgatgagct gcatgaaggc 1440 ccctcgagga ccgcagctct tccctgtggc aaaccgcagc ccaaacatgg tgttgaggag tgtggacttg cccgtgcctg gcaccccgac ggttgacaga accaccagcc ttgaccgtct 1500 1560 ctccagtcgg acgtgcagct ccttcaggag ccctgtgacc cagcggacgg gcatgctcag 1620 cgtgctccca tcgattagct ccagaggcag ccctgtcagc agcagetccg aggccaagcc 1680 tgggaagtgg gcaaaacgcc tctggcctgc cggcagcctc cctgcctcca caagacagct 1740 ctcagcctca taaaactgtc ccatctcccg caagaagtgt tccaccccta ggggctcagg 1800 ccagagcggc tccccacgt ctgtggtgcc cccatgcttt ggtctcaggg tgagaagcgt 1860 ctccggaggc tgtctcagtc gcggctgggc cacccgtgcc aggccccact ccatccacct 1920 caggaagtac tgcttctcac tcaaggaggg gctgctgatc cccgagatga actcctgcac ccccgaggag ggatcatggc cgttctgctg cattcgaagt tctagcagcc gccgcctcag 1980 ctcagccctg tgcttctcag gggggtccac ggcccactgg agctggcaga actccttctc 2040 cacttgggct gcctttctcc aggggtcccc ctgcagcctc agctcgtccc ttctgtaggc 2100 atccgagtct ttgattttcc tggtaatcct ctccatccgg tctttcgctt tctgacactc 2160 ctcacagtcc tcgtcgacct ttaggcccag tttgcgggct gcgtgcgcca tgtcctccac 2220 agatacccgc ctgcagggtg cccgcagcac attcccaacg atggcccgga tcctcttcac 2280 gaagctgtcg ctgtcagtgc tgctgacctt taccaggaca tgtgagtggt ctattttcag 2340 2400 cacaggaatt aacttattca gaaatctcag gtttgtgttg cgcttcccac ggtagggact caggatgaag tagtattttg tggttgactc cttcatggag tacagcaatt tgtattcctt 2460 2520 cttactgata ttgtcagtca atataaacac agcggaggag atttctgtca agagcttaaa ctgcagccag tgagacccga tgtcacctct caggttcaga aaggccacag gttctgggaa 2580 aatgtccaag tcctcccttc cgctgggaaa aaaccaggaa atttctacca acccatccga 2640 2700 aatctcccgg gcattggtgc ccaagttgag gtcccgatgc cagaagcagt cccactgcct gtggcccggg ctgaggacgg cgttgagaag ctgggacttg gagttgctac tgacgtccat 2760 gcgcacgaag gcgaaggcgg gcgccctgga caagaccacg ctgtcttccc ggaagctccc 2820 2880 catgcccctt gggggctggg accaccatgt cctcacaatg ccccgcatgg cccacagcag 2940 aaatgtatgg tagtggttct ccgagtcagg caacacgagt gggagtgcaa actggcagag ggccattttc aacgctattt cttgttgcag gaaactgtct gaggagagca gcagggcaca 3000 gagaaggtct aaggggttca ctggcgtatc aggggtgggc agctcagaaa aggaataaat 3060 gtcggcagca aggtcatcag ctgggtccca gtagatgatc tcctcttcca tctggctctc 3120 cttctccaca ggcctggcgt ctgggagcac gtccagcacc atagtggtat tcctggcatc 3180 agcattgagg gcctgcaact tcctgaggaa attccagggc aagtctttgg gaacctgagg 3240 ggcccagttc ttcatactgt caaaactgat ctgcagagag tcctggaggc tgagtttctg 3300 3360 gacctggtac gtctctaggc ccaaaagtga cagcatttct tgaagcctgc ttctctccac 3420 tgtggaaaga aatgaagaca taagtgctca ccctgtgttt ctgagctagg ggccagggaa 3480 gagctggtga aggagagccc agcaggatgg ggagagtgac gacccccttc agagagcaga 3540 gtgcaggcac aggaggctca gggtgtgctc aaggctgacc tgagatcaag gcagggctgg 3600 aacccggaca tcaaggtaca ataggtacca acctaaccac agatatatgt gacattaaac aaaagaaaga acagaaataa ataagctaca tttaacaact ggaagagttc ttgcaaaagc 3660 3720 catatttctg gtctttctag aaacctgtaa gatctaacac tgagctcaaa attaattggc 3780 tacagtgagc agcacatgac tcctacaagc tgaatgcagg cctcacctcc ccactgtgtt gcttccgtgg gctactcaga gtcaccggga agttcccaca ggagtcataa tcactgaatc 3840 actctctggc tttctagtta atgttttttt gtgttttttt tctctctaga aataagagaa 3900

3960 tattttaaag gaactagaaa gaaatcacta agcataaaga gtcagcaatt atagctaaac aaccattttg caaacctgaa atcaataatg caggttttct ttttttctt tctttttcc 4020 4080 tctccccttt ctttttttt tagacagggt cttactctgt tacccaggct gtagtgcagt 4140 ggcatgattt cagttcactg tagcctcaac ctcctgggct caagagatcc tcccacctct 4200 gcctcccaag tagctggaac tactggtgtg tgccaccaca cccagctcat ccttgtattt 4260 ttttgtagag atgggttttt gccatgttgc ccaggctggt ctcgaaccca gactcaagca atccacctgt ctagccctct caaagtgctg ggattacagg tgtgagccat ggtgcctggc 4320 tttaatgcag ttttaaattt taaatgtatt aaaatattca gtgcagactg ttagtaagtg 4380 agcacttact tgcgcagata ctcaaatatc accctataca atataagatc ttataagcta 4440 gatgcttgaa acagtattgc tacctctgaa gattccattc accatccagg tcttggccca 4500 gcaccttact aatgttcatg ctgcatatta attagttgtc ttaaaatttg ttgttgtttg 4560 4620 aggcagtgtc tcactctgtc acccaggctg gaaggcagtg gtgtgatcac agcttattgc 4680 agccttgatc tcctaggctc aagagatcca ctcatctcag cttctgagga gctgggacta caggtgcaca agacacttgg ctagtttttg tatgttttgt agagacggga ttttgccata 4740 ttgctcaggc tggtcttgaa ctctctggct caaatgatct gcctgcctca gcctcccaaa 4800 gtgctggatg tgaggcaccg tgctgagtca ctttaaatgt taatgcatga agtaaataca 4860 4920 aattccactg ccctgcagcc ttttttccag ttcctttctc gagagaggaa gcaacgtgta 4980 tgatactgct ttgatgctta gataaaccat gaaaggaaac actgggtgac ccagccctct 5040 gcctgtttcc caagaaggtc aagtgatgga ttcaagacca ctttccatac gaccagcagg 5100 actcacagtg ctggacactc tgctcagaga gttccacagg cattgtggcc acaggactgc 5160 cccacagaac attaggggac ctatgaactt gttacaaaaa caaaagtact atatgggaag 5220 agtcacattg tgccaaaaca ggtgttactc aggtttccta gctttgcctg aatgaaacta 5280 ggaacattgt ttttcttgtc cagacatgga ataacttttt atttttaag tagcatggta 5340 gtaaaaggca atgggaaaaa gacaaagaaa acacttctgc ccagtgtgtg gcccttggca 5400 ggttgtttgg aagctctggg cccagtatcc tgatctgcaa atgaaggcgt tggaccagat 5460 aaatcqtttc caaaccgggc tgtacattag aatcaatcac ttcaggaact tgttaaaaaa 5520 tgaaacatct ctgggtttca cctccaaaca tgctaactta ttaaaggcag tgagtatgtt gggtggtgga gggggggcct ggttactcta tgtggttagc aagcttccca gggttttttt 5580 5640 tttttttt ttttagcaat atggttaaca atgtataaag ggttaatgaa gtagggcatc 5700 ctaaacctga gtgctctgcc tccccaggtg atttgataca gtcaggtgtg ggaactgctg 5760 gcctagatga taaccccctt tcatagaaca gagagaaaaa gcagagaaaa tgcttacctg 5820 ttggaaaatc attgtcctga gcctcatttg taccatctat ggaaaaagca atggaaaatg aagtgtcaat caaataatgc accettggct gacacaaatt aattgaagct aaacctagaa 5880 cccttctttc tcaccaagat ggcaacttct cccaattgtt ctaaatataa aatcccggtt 5940 atctgtcact ttacccactc ccctctccc cagtccaatc tgttgccaaa tcctgtagtt 6000 tctacctcca taacggaact cgcaatcatc tccttccatt tctctccatt ccaaatctag 6060 aagaaaaaag aaaccaaata catttagttt catcagcaag ttagaacctt tctgtcaaaa 6120 atttcaagtg ctcatgcctg taaccccagc actttaggag gctgaacaag aggagtgctt 6180 gagtccagga gtttgagacc agcctgggca acaaagcaag accctgtgtc tacaaagact 6240 6300 ttttttaaaa aattaggcca ggcatggtgg ctcatgcctg taatctcagc actttgggag 6360 cccaaggcag gaaaatcact tgaggtcagg aatttgagac cagccagcct ggccaacatg 6420 gcgaaaaacc atctctacta aaaatacaaa aattagctgg gcgtggtggc gcatgcctgt 6480 aattccagct tggaattact tgggaggctg agacaaaata attgcttgaa cccaggaggc gggggttgca gtgagctgag atcatgccac tgcactccag cctgggcgac agagtgaggc 6540 6600 tatctcaaaa acaaacgaac aaacaaaaat tagctgggca tgatgccacg agcctgtggt cccagctgag gcaggaggat tacttgagcc tgggaggtca aggctgcagt gagctgtgat 6660 tgcaccactg cattccagcg tgggcatcag agcaagaccc tgtctcaaaa aaaaaaaaca 6720 6780 ccaaacaaca acaaaaaacg tcaagtgaca atatggtggc tgatgtttta gtgctattat tggtttcagt ttttcctatg taaatgtaat gttttgccag caaaaaatac atcacaaggt 6840 agtaatagct acacacaaga cacagatttg ctctaggata tatctttata gaattttcta 6900 aactttggga aaataaaaca tgaataacca taaaacttac atagattaac ctttgatttt 6960 agaaactatt taaaatgtaa gttgacagaa attccttgac tatttaaaaa ttcagcacct 7020 7080 gtcaatgtta tttttattcc agcataagga atttttgtaa tcacttaaaa ttgaaatgta 7140 catcagagca caaatacaca gaggtgaggt gcggggggag agacagtggg gaagagttgt gacttacaag tgaactgtta tttgtccaaa gtctccaaac atcatgaaat gtccatcaac 7200 attaacatct taattacaaa atgtgtttaa tgtagtgcta gtcagatatt tatgtatgaa 7260 caaagaccta aaactctaga tttgcttgca agcacacaat ataaaggagc gaacaggagg 7320 cttaggaagg agggagcaag acttctcagt gcatgttttg actattttga ctttgatcca 7380 agaaaaagta acacctaggt tccaaaattt atatatata atatatata atatacatat 7440 7500 atatatat atatatat atttttttt tttttttgag atggagtctt gctgtgttgc ccagactgga gcgcagtggc gcgatctcag ctcagtgcaa gctctgcctc ccggattcat 7560

7620 gccattctcc tgcctcagcc tcctgagtag gtgggactac aggcgcccgc caccacaccc agctaatttt tttgtatttt tagtagagac agggtttcac cgtgttagcc aggatggtct 7680 7740 cqatctcctg accttgtgat ccacctgcct tggcctcaca gagcgttggg attacaggcg 7800 tgagccacct tgcccggccc caaaatttat atttttaaga gcttatgaat caagattcgg 7860 atattttcag atttatgttt tctcatgatt tccatgtaat caggtagata aacctaacat 7920 ttcaaaccgt cttctttgat gatatctctg ggagatggac atgtgaaaag caggaaagag 7980 aaaaagaaaa tggggtccag gaagcatgag aagatcagag aaggcacaag atccacacac 8040 atcaaccaca atgccaagca gtccaaagat tacattattc aagtgaggaa aagccatcag aacaaatttt ccaaggaacc caaaatgccc tgtgaggaga gaaaatggtt agagaaaaga 8100 atgggaaagt ctaaagatgc cagagatagg gttagggtgg ttctgagagt agttttaagc 8160 tggagtcagg agtaacctcc agacccagag aaaatagggc cttgcttggt taggggtggg 8220 8280 aaatagctct gatgtggatt taataggtgg atgaggtcaa ggatgcacaa agtagccaaa 8340 gactgagggt taccaaacta aggaaaccac tgactagggt tcggagagag cctgatgttc 8400 tgcagccatc agcagattgt ggggcaggtg gaagaggaag cagcagggct ccaggcaaag 8460 acacaaaaca gcaaacatgg ggggccactg agggctcagc tccatgagcc aacgtctcca 8520 ctatacttca cattgggcag gaagtgacct aaggatgaga taagctctga ctctgggagt 8580 actgggctca cacggaacac agggacagag gataggccag gccctaccac catggtgagc 8640 ccaggaataa ctgttatgag cccattgttg gagaactcca agtaaggcca ttaaaaccat 8700 tttcaagcca ggtggggtgg ttcatatctg taaccacagc aatttgggag gaaaacgcag 8760 gaggatcact tgagttcagg agttcaagac cagcctgggc acaatagcaa gacccctgtc 8820 tctacaaaaa gtttttaaa aaattagtcg ggtgcagtgg ctcacacctg tagtcctagc 8880 tacttgggag gctgagacag gagaatccct tgaggccagg aggtcaaggc tgcagtgagc 8940 tatgatggcc accactgtac tccggcttga gtgatggagt gagacaaaaa tagaatgagc 9000 tatgaagtag aatcttcaga gttgagtaag ataaataaat tatatcgtgt gactacataa 9060 agtataaacc aggcaaagct aatctatcct tttagaagtc cagataatga cagatgagag 9120 gtgaagtaac tggaagggac ctttgggggc atgggttttc ttcagcttct cgatctggtt 9180 tctggcttac ataggtaagt tcatgtttgt gaatatttct caagctatta attggagtac ttttctgaat gtatagtata atttttttt tttttttaa agacagtctt gctctgtcgc 9240 9300 ccaggctgga gtgcagtggt atgatcccgg ctcacagaaa cctccacctc ccaggttcga gcgattctcc tgcctcaacc tcccgagtag ctaagactac aggcgcccac catccctccc 9360 9420 agctaatttt tgtatttta gtagagacgg ggtttcatca cattggtcag gctagtctca aactcctggc ctcaagtgat ctgcctatct cggcctccca aagtgctggg ataacaggca 9480 tgagccactg cacctggcct gtatagtata ctttaataca acttgttttt aatcctatag 9540 gcttaaaacc ttgctttaag tctttaaaat gaagcatatg ctcaagagga actcacataa 9600 ctcatgaaga acaactataa agaataacca ctggaggttt attcagtaga gagagacaca 9660 gagatcaaag ttcggggaag aaccagggtg tctctgtgcc ttggtttcct caaatgaaac 9720 9780 agggattgat aagtatetta gaggteatag ttaaaagtaa ttaagacaac etageteaca ataagcatcc aataaggcca ttccctctcc tcgccccatc cccatgcttt ctttctcatt 9840 tgtctagaac aacactcccc aagggaacct cccaagctga agttctccat ctgcaatgtc 9900 9960 caagctgcag ccactcacca tgcaggctgc tgagcaaata cagctagagt atttaggagg tgaagtttta attctgttta attttaaaca atgtgcctag tggctactgt gttgaatagc 10020 ataattctag atgtggagaa actaaagggc tttgggcaat tactgcctga tcccaattct 10080 gctacaagcc ttgaccaact ggccaataat ccccatggtg cctaccttcc agaatttaag 10140 ttccatgaag ggctttgagc cttttcattt actattgttt acaatatcgc aatgcttaca 10200 acaatgttag tgcatggtaa gtactcaaaa aatatttgtt tgaatgaata aaatagtgat 10260 tttttccata gagacggtgt ctcactatgt tgcgcaggtt ggtctcaaac tcctgggttc 10320 aagcgaacct cttgccttgg cctcccaaag tactgggatt acaggtgtga gccactgtat 10380 ccagcctaaa ataaaacttt attaaccaaa acttatttgc atatttttgt ggatttttgt 10440 ttttgcataa ctctattaat atccaataga acactttttt ttttggcagt taaaacatag 10500 10560 tttatttttt tagcacattc attttaagaa gaacctaatt tatgaaagat atatctaaaa tgagttactg gctgggcacg gtggctcacg cctgtaatcc caacactttg ggaggctgag 10620 gcgggtggat cacctgaggt caggagttcg agaccagcct ggccaacatg gtgaaactca 10680 tctctactaa aaatacaaaa aattagccgt gcatggtggc gcatgcctgt aatctcagct 10740 acttgggagg ctgaggcagc agaatcactt gaacccagga ggtggaagct gcagtgagct 10800 gagatcgcgc cactgcattc cagcctgggc aataaaggcg aaacttggtc tcaaaaaata 10860 aaataaaata tcaaataaaa taataaaaga aaagaaaata taaaacaaaa tgagttagta 10920 agagagctaa agatatctgg agtgtggcca ccatacctta aaggtgaatt tacaaagggt 10980 11040 ggcgttacag ccccacccc aaatcctcag agaaagaaaa accagcctgt atggaccata accaggaaga ctacaagccc cagtgtgctc tgggacaatc ccaatttata cctgttttcc 11100 caacattaca tccctttcac tctcagaagt gcccacttta gaagataaac tatacagtca 11160 ccttaactat gacctacaat ggcagttatg ctaaaattgg ggtaatgtgt ttctgttaaa

```
ttgtgtcata atcacctgtt taactgaatc ctgggaacac ttactccatt ttctagaata
                                                                   11340
aagtgttgcc cataaaaaaa acaaacaaaa aacactattt tgaatatatg aggaatgctt
aaaagaccct tagatggaat cttcttgtaa aaggaaaaat aaaagcctta aacttattta
                                                                   11400
tttttgagat gcacaatccc aagtccagga ggggctggaa cccagaatcc caaggggaca
ggagaagtac ttcagctcca gagtgggccc acatccaatt catccaactt tacctgcaat
                                                                   11520
ggccacagct gttcgtctct ctgatgcttt tatttctggg gctacttctc ccaaatctga 11580
                                                                    11585
atgcc
<210> 13034
<211> 1115
<212> DNA
<213> Homo sapiens
<400> 13034
                                                                       60
ttagtgactc agaaagagga ttttcccttt tactgggcta atacaccaca cctgaggagt
                                                                      120
tggggtagtt accagatcag gtttatattg tataaactgc agaccaccac cagttctgct
                                                                      180
aggtgctgtt tcagtaaatt aagatagtat cgatgagaag atgctgtttt acataccatt
                                                                      240
aaqaaqqaaa actggctgca aattatctta aggtaccatt gattgattaa aagatgaatc
                                                                      300
ctgatctgac atgttaaaat gtttgaggct gatgcagaag gcagtttcct ctccacaaac
                                                                      360
ctcatgggtg tgcagaatgg tgtagacaca gagatgggtg cctcacttac ctcatgcaca
gactggcttt tccaccacag ggcaggcact gtataagcac cttccattcc tacacaggcg
                                                                      420
                                                                      480
ctagtagggg gaactaaggc ttggagaagc caagtaactt tgctaaaggg tcatataatt
                                                                      540
agtaggaagt aaggctgagg ttcaaaacca ggccggacat ccaatgtgct gaagcaagct
acacctcatc tcacaagaga ggcgaagaca cgcttgttcc ttgtcccaag cactcttcag
                                                                      600
                                                                      660
gcccatttcc tccaagatgg tacttgcttg gtttgacact ttcatcaaac aggacccctt
                                                                      720
gtgagcacac ggccatgctc tggtgagcag cctgccgccc tgtccacctt tctgggtggc
                                                                      780
tctctctcta ctaagcttgg ctccaaggac atgaccgtcc agtagcccca tggcaaattc
tggggcttct cagacctgaa ggtgagcatt ttgagctcca gatatgaaag gcaagtcctg
                                                                      840
ggtgttgtgt tcattggaat cctaagagca gcactgactg gagggctaaa ggcaaggccc
                                                                      900
atccacagtt cacagacttg aaacatcaac ccttcaaaaa gggtgggagg aggctgggta
                                                                      960
                                                                     1020
cggtggctca ctcctgtaat cccagcactt tgggaggctg aggcaggtgg atcacttgag
gccagaagtg tgagaccagc ctggccaacg tggtgaaacc ctgtctgtac taaaaataca
                                                                     1080
                                                                     1115
aaaattattt gtatttttgt gatggtgggc gcctg
<210> 13035
<211> 65854
<212> DNA
<213> Homo sapiens
<400> 13035
                                                                       60
ggcggtgctg atgcagtcac gggaacaggt ttcagaagag ctggtgaggt tacagaaaga
taatgacagt ctccagggaa agcacagcct gcatgtgtca ttacagcaag cagaagactt
                                                                      120
catcctccca gacactacag aggtaactta ctttccacat gatcaaaaat gtcaacaagt
                                                                      180
acgttttctg aaatggccgt atgttcttta tgtaaacagt tttattcaga tataattcac
                                                                      240
gtgccaattc aaccatttaa aatgtaccat tcagtggttt ttgctgtact cacagatgtg
                                                                      300
tgcaaccatc atcacaatca attttacaac attttcatca cctcaagtag taactccctg
                                                                      360
tgacccgact acaccagcta aacacacaca cacacacaca cacacacaca cacacacaca
                                                                      420
cacacacg aaaaagtaac acttcgccct ttagctacca tccttattcc ccctcccc
                                                                      480
ctagccttaa gcaactacta acctttctgc ctctatagat ttccctattc tggactttcc
                                                                      540
tatgaataga atcatacgat atgtggtctt ttgtgtccat gttctttcac gtagccttaa
                                                                      600
tgttttgaag atctatgtta tttttgtcgg cccagattga gagtgtgcca gaaattaaat
                                                                      660
gtttgaaggg gttaccatgc tggctgctta tgacgtttgt ttttgtatct agtacttgaa
                                                                      720
aagttataac acactcacca tcatgctgtc cataaagatg acacttttgt ttcttttga
                                                                      780
                                                                      840
gacagataat atctgtcacc caggctggag tgcaatggca tcatctctgc tcactgcaac
ctccgcctca caggtttaaa cgattctcct gcctcagcct ccccagtagc tgggattaca
                                                                      900
agcgcctgcc accatgccca gctaattttt tgcatttata gtatagatgg ggtttcacca
                                                                      960
tgtttgccag gctggtcttg agctcctgac ctcacgtgag ccaccatgcc cagccaaaga
                                                                     1020
tggcactttt ggtcacttac attcttctgt ggttgggtaa acctgggcta caaaactggt
                                                                     1080
ttcccagaga cattcataat tctctcctta actttatcca agcttaattt ttaattttta
                                                                     1140
```

```
1200
ttttttgaga cacagtttca ttctgtcccc taggctggag tgcagtggtg tgatcttggc
                                                                    1260
tcactgcaac ctccgcctcc tgggttcaag tgattctcct gcctcagcct cccgagtagc
                                                                    1320
tgggattaca ggcgtgcgcc agcacgctgg gctaatttgt ttctgtattt ttatttttt
                                                                    1380
tattatttt tattttattt ttattttttg agatggagtc ttgctctgtc acccaggctg
                                                                    1440
gagtgcagtg gcgcaaccta ggcttactgc aacctctgtc tcccaggttc aagtgattct
                                                                    1500
cctgcctcag cttcctgagt actgggacaa caggcgcgtg ccactgtgcc tggcaaattt
                                                                    1560
tttaaaaatat tttttagtag agatggggtt tcaccacatt ggctaggctg gtctccaact
                                                                    1620
cctgacctcg tgatccgccc gccttggcct cccaaagtgc ggggattaca ggcatcagcc
                                                                    1680
accgcacctg gccttttttt gtatttttag tagagatgcg gtttcgccat gttggccagg
ctggtctcga actcctgatc tcaggtgatt agcctgcttc ggcctcccaa agtgctggga
                                                                    1740
ttgcaggcat gagacaccgt gcctgtccta tccaatcttt atacctgttt ctttttttt
                                                                    1800
tttttttcc tttttaagga aatcttagta agtagaagtt tcccctaatt ataccctaca
                                                                    1860
                                                                    1920
gattcaatct ctataatttg gacctcattc ttttttccta tatatgtatt aacatgactg
ttattttta tgtttatttc atcatttaca aaaaaccagt tgcctatctt gccattagct
                                                                    1980
ctttgctgtc tcccaccttt ccccaacttc ttatcgtctc agctcatgtt acaggcactc
                                                                    2040
ttggcagagc cttctttcct ttctgaattg gtgactgctg tcatcaaaag aaggtatcgg
                                                                    2100
gggcagggta tggtggctga ggcctgcaat cctagcactt tgggaggcca aggcaggcag
                                                                    2160
                                                                    2220
attgcttgag gtcaggagtt caacaccagc ctggacaaca tggcaaaacc ccgatgctac
tgaaacaaac aaaaaaaatt agccaaggat ggtggcacac acttgtagta gtcccagcta
                                                                    2280
caactacttg ggaggctgag gtgggagggg tcgcctgagc ccaggaggtc aaagctgcag
                                                                    2340
                                                                    2400
tgagctgaga tcgcgccact gccctccagc ctgggagaca gagtgaggac cctgtctcaa
                                                                    2460
ttaaaaaaaa aaaggttttg ggaacctgtc tacttttgct atcagcttaa aatcactgtt
                                                                    2520
taccaccttc cacctgttag atttttctct tttgtcagga aagaatcctg tcttccatgt
2580
                                                                    2640
ttgagacaga gtcttgctct gtcacccagg ctggagtgca gtggtgtaat ctcagcttat
                                                                    2700
tgcaacctcc gccttctggg ttcaagcaat tctcctgcct ctgcctcctg agtagctggg
                                                                    2760
actacaggtg tgtgccacca tgtctggcta ccatgttggc caggctggtc tcgaattctc
                                                                    2820
gacctcaagg aatccgcctt cctcggcttc ccaaaagtgc tgggattaca ggctttagcc
                                                                    2880
accgcgcctg cctagtccta gatcttaaaa tgttccaaga atccaggccg ggcacagtgg
                                                                    2940
cacttgcctg taatcccagc acattgggag gttgaagtgg gagttttgct tgagcccagg
                                                                    3000
agtttgagtc tgtggtgaga tatgattatg ccattgcact ccatactcca gtctgggtga
                                                                    3060
cagaggaaga tcctgtctca agaaaaagaa aaaaaaagtt ccaagaatcc ttgaagaatg
tagtcagtgt gtaatccttg attcttggac ctgcttcagc aataaatctt aggaaatttt
                                                                    3120
aaaaactgtt gttttatata tattgttatt tgagaatctc gtttttactt tagagttgct
                                                                    3180
                                                                    3240
ttaggatata attggaagga tttctaaaag aagacagaac taaaatttag gaagaaaaat
                                                                    3300
aaattctata ctgaatttat tacagaaaaa cagcttacca ccttagaaag ccacctttgc
                                                                    3360
cattatttac ctctggccta aggtagtact ttgcctctgg tagatgttta gtaaatgttt
                                                                    3420
gaatgaatga ataagtgagt aagtaaataa atgttatcct cttagttcac acttgctact
                                                                    3480
gagtgtgaac ttgctactca gttttgtctt catttcctaa ctcctcccaa atttctgcaa
                                                                    3540
gtaatagtag aggattctaa ggtattattt ctattgaatg gcatattgta agtcacttaa
                                                                    3600
tctttttatt tttctgctta tgaaacagtt ttgagggaag agtatgtggc ttacaagata
                                                                    3660
cgacttggcc agaaatgtct tttctataac atactgaatg ttaacctgac atggcacctg
                                                                    3720
ccctgaagct ctaagtggct taatggtcaa agtcttaatt tttgaaccat taaaacaaca
tctgagattc tggttacaga aaatctttag cttctttatt tcctttcact ctcacaaacc
                                                                    3780
caataatcat ttgtttcttg aatccaggca ctgcgggagt tggtattaaa ataccgtgag
                                                                    3840
                                                                    3900
gacatcatta atgtgcggac agcagcagac cacgtagaag aaaagctgaa ggctgagata
                                                                    3960
cttttcctaa aagagcagat ccaagcagaa cagtgtttaa aagaaaatct tgaagaaact
                                                                    4020
ctgcaactag aaatagaaaa ctgcaaggag gaaataggtg aagataaaag tgatgtagtt
                                                                    4080
tagaattaga gtcactaaat aaaactttag taaaagaagc aatacatggc catggagtct
ggaacacaga aaagcttagg aaagaattta gtaaggactc agtccatttt ttgtagatat
                                                                    4140
                                                                    4200
tctgatatat tcagattctg aatatatatt ctgatatagt caaataatca gaaattctgg
                                                                    4260
ttatttaaaa aattttttt ttttttttt tttttgagac ggagtttcat tcttgttgcc
                                                                    4320
caggctggag tgcaatggcg cgatcttggc tcaccgcaac ctctgcctcc caggttcagg
                                                                    4380
caattctgct gcctcagcct cccgagtagc tgggattaca ggcatgtgtg ccagcacacc
                                                                    4440
cagctaattt tgtattttta gtagagacgg gtttctccat gttggtcaag ctggtctcga
                                                                    4500
actcctgacc tcaggtgatc tgcctgcctc ggccttgcaa atgctgggat tacagttgta
agccaacgcg cctggccgaa aactcgtctt tttaggagtt ctgtggcctc tttggcaatt
                                                                    4560
attcatagat aggattctca gtacttgaac ccagaaccag gggaacgtga ttcaatgggt
                                                                    4620
ggcatttccc tgcagagatg tgatacatga tctagaggta gtttatgaca cagtgtccat
                                                                    4680
ttgcatggat cctgcttttc cctgagccta aatatgctga ttgcttggtg gtaattttga
                                                                    4740
gacagccccc ggaacccatg ttcagcatac atttgaatcc tttgggggggt gctctaaaat
                                                                    4800
```

4860 tttaaagaaa aaaatgttca tgcacaataa tagatgaatg ctaatacatc tcatttttt 4920 ccttctagct tctatttcta gcctaaaagc tgaattagaa agaataaaag tggaaaaagg acaggtaagt cgtgagtttc aaattaattc tatcagcaac cagtggttat ttactgactc 4980 ctactatgct gcacccaacg aataaaaaat agttaaggca tgggccctgc cttaaggaac 5040 ttttgtcttg tgggaagaaa accacggggt aagggtgtgc tggtgattta ttgagagtgc 5100 cctgtgtgtc aggctacgtt aaactggagg aggtaaggct aagatgtgac tgtggcctgg 5160 agtttccagt gtagtgagaa gataggcaag gcatggtcat aacatgttat atgcttagag 5220 gtacagtaga aatatgtata aaaaacatta caaacaagag atgacatttt ctagctggct 5280 tagtcctctt agacatcatt agttcctttc atagtaaccc cattcaactt cctgacctca 5340 ctgttccttg atttagagat tttcacctcc accctgctct ccccttccac acactgggct 5400 gcattttgcc caactgtgac atctcactgc agccttaagt tccttgacca caatctgcca 5460 5520 tccttccagc tcttccatcg gagtacctca ttcagacctc cagttctctg aacttcccct 5580 ttcattctgg tttcagcagc ttcatggctt gctttctttc ccctaggttg catcttactg 5640 gcctgcctct tcccttcatc tcccaccaca cctgtcccta tggtctttga ctccttgtcc 5700 tgctgctgcc ctcacctgac cactgcccaa ccttggacta gtcttgctgt ccccagctgc 5760 tgatgccacg agacttggtg acactgcatg ctcaagctgc cagatgggcc tccagtgttc 5820 ctcatgcagc ctttcatgtg tcctaagttg cgtctcttcc attcctcaca gtggcagttt 5880 cagagtcacc tcacctcagc cccctcactc tcagcagatg ctggcctcac tcctcaggca tcaggcaggg ccaccttcag ctactgggct cctcaattac aggttttcct tttattccca 5940 dtcttttctt tttcttcaga gaatatcatg acctgcttct gaccacagtg tcattgcata 6000 ggtgctttga ctgagtatct ccgacttttc cagatgtccc cgcgcagtgc cgggccttga 6060 6120 acttctgcct cttgactgat cttttccatt atgcatgaac aggctcaggt gtctcatatt 6180 cagaaggaaa aagtctgtct ttggattgca ctcctctccc gagctaccac tctttcttcc 6240 tccctctgtt gccacagtct tgatcatcat cactgcctga cttcccaggc atccctccac ctgctgcagt ctgcctcctg cctccacttt gctactgata ttgcaccagc agaaattacc 6300 agegetegaa ataacatete ateettteea ttetagetge caetetttga gtteagaett 6360 cactctcacc tggcttattg taacagccta actttccctg cctccaaaat ttgtccctaa 6420 6480 atcatctcca tattgaaatc aaggtgatat ttaaacatta gaaacttgtt cgcgtcccag tctagtggaa agccctcccg tagttccctt tattttacag gatcaagtcc atatccttag 6540 cccagccaga gctctcctgc ctcacacctc tctgcctcag tgcctgtggc tcccaacgtg 6600 ctgtgctgta ggccagccga acatgccact gttgctgcat gtgtttttag tgcgtgccat 6660 ccattccctc ttattggagt atctctccat cttctcccct tgtcaccctt gtctttgccc 6720 tgtaaaaatg taggagtcaa atgtcatctc ctctaggaag tcctttgtaa cttttctggc 6780 agaattaaat gcttctttct tcatccttta catgtctgtt taccctgatt tctccatttt 6840 gaggccttag aatatagtag gcacctaata atggttaatg aaagaatagt tcaggaagaa 6900 tacagagggg atccacagag ctgaaagggt gagaggagta ttcccagtgt agcccgagtg 6960 tcttggtgta attctccagg ctctaggctc ttttaggtag tgcactgggg cccagaggga 7020 7080 gtttctgtga gtttcagctt tttccttttt cacagttgga gtccacatta agagagaagt 7140 ctcaacagct tgagagtctt caggaaataa agatcagttt ggaagagcag ttaaagaaag agactgctgc taaggtagtg ttttcattag tcatttaatt ttaaaaagca gggctaagaa 7200 tgcaggatca catcttgctt gttgaaaaaa aaatattggt gctttgaagt gtcacctttt 7260 aaaaagttgg caaaactgac agcttgtgaa aagaaaaaac ttaaacgaat tgatctattc 7320 7380 caqctqqqtt aaatcttttc tgccaggtct ggaggcctgc gtcataggct agcttcagat 7440 agtaggcagt cagggccatt gaccaagcct gggcactgcc cagttagaag cactgctttg 7500 aaaatgtcat tccatttgac tgatgtatca aatcctaaga gagattgcat caaaccaggt ttgctgccta aattttgatg agttccgtta gaataaacgt gcatgttgtg ggggtagttt 7560 cctagaaatg gtcttagtga gctgagtggt cagacctgaa agtgcagaca gtgttgctga 7620 7680 actgcttgtt tttggaaagg ctcccacaca tcctgctggt tttctgtaag agagactggg gatagctggg gcgtattcac taagtttcct ggtggatgct tgactgtgga ggttgtcaga 7740 7800 ggaagtcctg tatgtatccc tgttggtgtg acagacaccg atcttagcag ctgttttggt 7860 gattatcgtc actgtcacca gctgctgggg gtgggggagg gcagcacttt aatccatttc ttcctttggc ttttcatacc cagttcatct caggacttag agcaagtagt ctagatggcc 7920 7980 tgcacgcttg ccctatagat aaagagattg gtcgtgtata ggagtgcgac ggatatccac 8040 ccacctttct gccctagtag taggtaacta caagttactg gatttcctaa gtaattcggc 8100 cctttggcat taatcttcat tcaaaacttg tattttttag gctaccgttg aacaactaat 8160 gtttgaagag aagaataaag ctcagagatt acagacagaa ttagatgtca gtgagcaagt ccagagggat tttgtaaagc tttcacagac ccttcaggtg aggcatttgg ggaaccacat 8220 8280 acagagcacg aaggcagttt tgggggacag aaccttgccg atccctgact tgaccactgg 8340 cagtagctag aggtttagag actggctgct cctacctcca ccccaaatgt ctgactcatc 8400 attcaagcca gaaacctggt gtgttcttca cacttggccc atttttcttt ttctgtatgc cttgccaatt ttgcctcctt atgagtaaag tactgactcc ttagcatacc atgtaagact 8460

8520 cttcccaacc aggcccaccc ctgtattttg ctcatctctc tgccttgttt tacatgttta 8580 cccctcctga ctcctttctt tcaaggctca gcgtaggtct gtcccctctg tggagctctt 8640 8700 ctaggtccct gagctgggct aaagtgcccc tccctctgcc atgctccctc gggcactcta tgaatgcctg taatgacaca atgacattta gaatattgtg ctaaaactaa gttttttcc 8760 8820 caatggaact tcggattttt tttttttttt ggagacggag tcatgctctg ttgcccaggc 8880 tagagtgcag tggtgtgatc ttggctcact gcagcctgtg cctcctggat tccagcgatt 8940 ctcctgcctc atcctcctgg gtagctggga ttacaagtac acaccaccaa gcccagctaa tttttgtatt tttagtagag acagggtttc accatgttgg tcaggctggt ctcaaactcc 9000 tgacctcagg tgatccacct gcctcagcct cccaaattgc tgggattaca ggcgtgagcc 9060 9120 accgtgcccg gactggaact gtggattctt caggattggg agtcaggtct catttgtctc 9180 cataatccca acacattaca ctttaaaatc ctagtctggg ccaggcatgg tggctcacgc 9240 ctataatccc agcagtatgg gaggctgaca tggatggatt acctgaggtc aggagtttga 9300 gaccagattg accaacaata tggtgaaacc ccgtctctac ttaaaataca aaaattagcc 9360 gggcatggtg gcgtgtgctt ataatcccag ctacttggga ggctgagaca ggagaattgc 9420 ttgaacccgg gaagtggagg ttgcagtgag ccaagatcat gccactgcac tccagcctgg 9480 gtgacggagc aatactccat ctggaggaaa agaaaaagca agcaagccag gtgtgatggc 9540 aggcacctgt aatctcagct actcgggagg ctgagacagg agaatcactt gaacccggga 9600 ggtggagact acagtgagcc gagatcacac cattgcactc tggcctgggc tggcctggat gatgagcaaa actctccccc ccaaaaaaaa atcccagtcc gttacacggt agctttgggg 9660 9720 aattatttt aaaattttta attgttcttg ctgtctccct ttgaagtgac tagtactctg gtgagttaat ctgctacatc tcagctaaac cagtcaaagt tcagaaaatc taggcaggag 9780 ccacctgtag ttatctcacc attgtttctc caggtgcagt tagagcggat ccggcaagct 9840 9900 gactccttgg agagaatccg ggcaattctg aatgatacta aactgacaga cattaaccag 9960 cttcctgaga catgacaccc tcatggcagg attctagcct gcactttggg tttttaactc 10020 atctttagag caacagtaat tattatttaa ctcttaactg aagaaagaga agtcacaaca aaaggaagac tggagaaatg cttacttcta gagggagaag actgtgcggc acaggaaaca 10080 gcaaacagcg gggtgatctg cagcccagag accttcaaat gcgaacacta taaactccag 10140 10200 gcttgattcc aacaggcgtg ggatcagatt tggtgatgga aaaagcgctg tttccttgcc tgctttctcc aagacagatt ttcggaacac atttccctac cctaaagcga catcccagta 10260 gtgtttggaa ttttctgttc atagatattg gaagagagaa tttgctttat ctgttgtcta 10320 gagctcatca gtaacagtat tcagttagca gacagaagtg tagtatgctg tatgaatatt 10380 ttatattaaa atatgaaggt ttgagagcag gccattggct actgactgta ttttgttttc 10440 10500 cttttaccat tttatcttat cttgctttgg aggaccttaa atgctactga aacttacctg agaaccatag gactgtggca aacaaaacca attcatgaag tgaattaatg atgaggatct 10560 gaaaacttgg ctggggctat atatactgga agttgaaggt taaaggaaaa gcacaagaaa 10620 ctttggaagc actttttctg catacttaga tgatcttcat gggcccacag ggtaccagga 10680 10740 taaagccgaa ctggtaccat ctactctttt gaagtgtttt agtctagtta ttggatcagt gaaaaacatt agtatacgtt tttaaatagg ctaatttttc aacttggatc attaggctta 10800 cgtactactt gtttcaaatg tgtcaaatac aaaaatggta actaggttga cagatacttt 10860 gtatttttct tttgaattca gacctggaat gtaagtaagt gacaatgctt atggaaagcc 10920 agttagttag aattggaaat ctgtcttgtc attttacaag cattagattc ctttcctgtg 10980 11040 tgaagaaagc ctcagtgaaa caggtctttg ccataacttt atgaagtgct acagaaagca 11100 caaagaattg attcatgttc atcaatacct gctgagagta ctgtcccagg aatatccagt ggatggattc atcatccagg aggttcaaaa gtaagatggt tttcaaatca tttttgagac 11160 tggttgcata acagcagggt acctgaaaga gccttctggg agttagtgaa ctaggtagat 11220 tgttttgttc acataacgcc accatcaact taaagtgaat tgtctttgtt ataaatgagg 11280 tcactatgga cttaccctaa agatcttctg tacttctgtc ttccatagga caaatgataa 11340 gtactacata cctcatctct tgggttatta ttgtagtctt gcattcatgg ttatgaattt 11400 aaaaataaat accaattatg gaaatagtac taaaggcttg ccgcacatga aacattattt 11460 taattggttt aaagtccctt tataaagagt gctacatggt ttagataaag gaaacatata 11520 actattgagt tacaggggat tttattaatt ataaaatgca atcaatttaa attacgtagg tttaagacta gtcccttgga taagccccaa gcgaatttgt cttcagatta ttaaaattag 11640 tgctgtaaat cagggtgggc aattcacagc ctttctgaac tgactgaact agagcttgca 11700 gtgaagtgtt ctgctgagac tgagcacctt acagatattt ttctccagaa gatggtgctg 11760 ggtaataaaa tcatcacaat tagggaatgg ttagtggtct ctactgtggc aaatgccaac 11820 tgttggaatt cactttattg tagaaaaacc caaactgaga ctcttaagtt ttgtttagca 11880 atgtgtttct ggtatgaaac aaactactgt gtcactgtcc aggtaggaaa caattctttc 11940 aactgggttt tcagcataaa tgggaactga tgtagaaggc aggatttagc ccttctaggc 12000 aaaagaaaag ctcagttggg tttcacgagt gttcctgtgc ttatattcag tctgtgccta 12060 catgttctca tgcatgtcta acctgattta cctcttacct gtaacctacc ttatcatgtg 12120 gcttttaatt gacagtcact cagccatttc taagcagata tagtagtacc tttcagaact 12180 cacattggca agtgtaaaaa gatgacttaa ggtgaagtga ggacaaaatc acattctgca 12240 tactaaccta ttttttctc cctttaaggt gctaaacttg cacctcatgt ccactcagta 12300 acaagtattg ggacgtagag cacagcctca ctcagctctg aaaggtaata cagcttgtga 12360 ggaagtgagc cagcagtggc ctttgcaatt gtggatcttg agctctgctc tcagcagatt tcaggtgtaa ccatttgtta actgtactga aggtgtgtcc tcaagaagaa agtgttcaaa ttaaaaaagc tgctgccaag tacactgtgt ggtcttctcc tttgaatcct agggttctat ccctcttcag agtcatgttt ctggtgctgc tactttaaaa cacagctcac aagaataact 12600 12660 aacttgctca aatatggaga aaactcaata gggttcaggg aggttctggc agtgtgcagt 12720 gtgaaataat cctgagtcct tgctgaacac aactgtaggc ttgagttata aagcacattc 12780 caaattttaa ataaaagcat ttactcaatt attataaaac aacatattta aaaagatgaa 12840 ccacaccaaa ggtcatcaaa acaccttttt ataaattaga taattctacc tgttttacaa 12900 tatgggttta agccttcaat ggtgttcagt tcaggtgtga gtcagctcct ggtggtgtca 12960 gaagtttaca tgattgcgga tatcattgat ttgcttcacc atttccctta tatgttcacc 13020 cctqtaaaat tqtaaagtca ctcacttttg gaattataat aaaccattta tatggattct 13080 taagaattta aactggtaat gttgaaacat ctaagaactg ctttgctaaa attaacagct gaaggtttca ggtggatagc aatagtgttc actattcatt taaggtggca aacggtgcaa 13140 13200 gtactggaaa tatttttgaa cataattact gtaaaatacc tttggccaca caacaaaatc atgttactag aaggtcatcc ctttcaatcc tcccaccata gtcatttctt aagtccctat 13260 gtatcatgtg gctctcatcc cagtaattac ttgacatgca aataccaaga ttcaggtttc 13320 13380 tattaagaca ggttgattct ggcatactgt aaaggaaaaa ctatctcacg ataatagctg 13440 attggaagta tttacttact cctctttcag gatggactga atgcactttc gctggtaggc actgagaata atggtgggtt ttggaagact caacaccttc tccatctttt gctgttgata 13500 atcctttttc atagtaacct taagtattaa aataatagat attttggcag tggtttgcca 13560 cacattttca cagtatctat ttgaatctgt tctttttaca tttttgtaaa attttctgta 13620 gaataagtgc tttaagaaaa attaccaaat ttagctagtt tggatctatt cctacctgtt 13680 tgatggcatt gcccaaatgt cgaagttgat caggtatcag ctgtaattct ttcttcatgt 13740 ctcgctcact atcagagaga actgggagct cagagtgaaa actgtgaagt agttttttca 13800 tcctttagaa aaggcaagca aacatctcaa tttaaggtct ctactaatta ggagaaacat 13860 aatcacaagc tcataattca tgaatctggt gtttctgaag taggccccat aggaagggtt 13920 aggggagagc ctcatgtttt ccccaacata tacttcagag gagaggcagg gggatcagtt 13980 cagttccgta ggtatgtaag cacctgccaa tgcccatttt cttaaatatc gttgttagta 14040 cctgactagg taactaaatg ttatacagcc cactgacctg ttcatgatat cctcttgttt 14100 ttctttagct tcctcatatt tgtcagctaa acgctcagcc atttcccgca gacttttcct 14160 aatgatgtaa gacacaagag actcttgagg tccacccctt gatgctgaaa ccacctaatg 14220 tggctcagca tcttagggtg agaatatggt tccagtctta ctgacctatt gtattcttct 14280 tatttttgac acttacctct cttctcgaca ataactgaga tcttctagtt gtttcttttt 14340 ttggtcacat aataatttga ccctttaaaa acaaaaagaa atagagttta ttcagaagcc 14400 aggtctaggc taccatacag catcagctac cagccaggga tcgatggttt gtgaacacag 14460 gacatcatac ctccgctgaa tctcctcctt tgccaagtcc tgtttgagaa tgtactgctc 14520 tctgaacacc tgggtggctc tgctgaggag ctgaaggcat tcttcaggag gaggggctat 14580 gtccttttca gaagctctta aaaacaaagt ttctaccttt attttcctta gctgagtaaa 14640 acaactgaaa ataaatagac tcaagtcaca ggtgcttttt aaacttttta tatttttaat 14700 ttatttattt gagatgcagt ctcgctctgt cacccaggct ggagtgcatt ggtgctatct 14760 cggctcactg caacetecae eteccaggtt cgagcaatte ttetgeetea geetetegag 14820 tagctgggat tacaggtgcc caccaccacg cctggctaat tattgcattt ttagtagaga 14880 cagggtttca ccatgttggc cgggctggtt ttgaactcct gaccttaggt gatccgcctg 14940 cctgggcctc ccaaagtgct gggattacag ctgtaagcca ccgtgcccag cctaacttga 15000 15060 gacgagtctc actgtcgccc aggctggagt gcagtggtgg gatctcagct cactgcaacc tctgcctccc aggttcaagc ggttctcctg cctcagcctc ccaagtagct gggattacag 15120 gcatctgcca ccacacccag ctaattttt tttgtatttt tagtagagat ggggttttgc 15180 tgtgttagcc aggatggtct cgatctcctg acctcgcgat tcacccgtct tggtctccca 15240 aagtgctgag attacaggtg tgagccacca cgcccggcct agcctaactt ctttttaaac 15300 acttcctgtt tatcattctc aggtgccact tccctcctgc tccccattca ctagctgatc 15360 aaatatatcc agtttcttcc aaatttatca cagtaaaaag tatatgaaac agatgaggac 15420 agaaaggatg cacagtaatt ctgaagacag aagagaaccc attcataaaa ccgctatgcc 15480 caaggttgca tacttcaaaa atgctggatt ggcaacacta cgttgcaaaa tgcttctaat 15540 atgcttttca aaggaatctg gggtttcagc cagaacacgg aggggagact ctgccacttc 15600 15660 aacatcttct cgagtacaaa gcaggggagg agacgctgga tggactgtac ttctgcaaaa taagtaagta aattgaattc taccatggag tgatttactg tattacagga aagcagaaac 15720 cacattaatc cagaactttc agaatataaa ataaagtgta acttttgtaa aagtgcaaga 15780 atgcatgttt tccaccttga aaaggtcact ttgggaagct acacccttat tattccaatg cccctgattt gtgaaagcat ttctgactgc catttccagt tcttttctaa aagatcaagg 15900 cagcacaaac acctagcatg gattcttggc aaaggacttg aaagccagtt tataagccgg agccacaaac ataaattact tatttgttag gtttagagtt gatcaaaacc aatattaagc 16020 16080 caagaaactg ctgtatatac catattggtt ctatataatt tcatttctaa aaactattca gtcaagtgca aatactcaaa cttcaaaaag agcttaaaag atctcacaga cttcggcagc 16140 atggcaagtg acttactctg aaggcaacaa ttctaacgtg aatgtttggt tgggcgtggt 16200 16260 ggctcacgcc tgtaatccca gcactttggg aggccgaggc aggtggatca cttgaggtca ggcgttcaag acaagcctgg ccaacgtggt aaaactgtct ctactaaaaa tataaaaatc 16320 agctgggtgt ggtggcacac atctgtaatc ccagctactt gggtggctga ggcatgagaa 16380 tcgcctgaac ccaggaggcg gaggttgcag tgagctgaga tcacaccact gcactccagc aaatagcata actttataga caacttgtat ttcagggagt tggcagaaat atgatctgaa 16620 agtatccaga taattggcct ggcacggtgg ctcatgcctg taatcccagc actttgggag gccgaggtgg gtggatcacc tgaggtcagg agttcaggac cagcctggcc aacatggcaa 16680 aacctcatct ctactaaaaa tataaaaatt agctgggcat gtggtgtgcg cctgtaatcc 16740 16800 cagctactag ggaggctgag gcaggagaat cacttgaacc cgggaggcag aggttgcagt gagctgagat cgtgccactg ccctccagct tgggcaacac agcaaactcc gtctcaaaaa 16860 aaaaaaaaaa aaatatccag acaattaatg tttatttttc ccctttggga ttcatattta 16920 ttctgaagta agctagtgtg actaggtttt attttactaa atgtactgtg ggtgtttaaa 16980 17040 aagtatgctg aggtaactta caggtaattt tttctccagt gattttatta tttttgtttg gtcttgctag cttttagtgc cttcagtgta aataacacaa aatttatatt tatttttaca 17100 17160 tccagatagt acaacttaat caagcttcaa agactatgga agatcctcta aggacagtaa 17220 actactgcca gtattaggaa tttatgtcag catccagagg tgcaagcttt gaacggacaa ggggtggggg tgttgtctag tgtttgaagc tccagtgact tttgtttttg gtactcatat 17280 17340 tcctacattt atgtaactca gaatgatctt ccagggctgt tggaaaagga acatagtgat 17400 tacagcttaa ttatctgagt tccttaaagg agcaaagact aagagttcag cttttttgtt ttttttttttttta aaagacacag ggtcttgctc tgttacccag gctgtagtgc agtggcatga 17460 17520 tcatggttca ctgcagccta aaactcctgg gcttaagcaa tcctctcacc tgagcagcta 17580 ggactacaga tgtgtaccac catgcctggc taattttttt gttttttgta gagatggggg 17640 tctcactgtt ttgcccaggc tgatctcgaa ctctgggcct cccaaagcat tgggattaca ggcatgaacc accactgcac ccagcctgag ttcagcttta ttccagttta catagtctac 17700 agtgtccctc aggctggcag agatggagaa attaaagagt atgagtatgg acttctgagt 17760 caatgagacc tgcatctgta tcccagctct atttgttacc tgtgacttca gcatttacta 17820 acctctcgat ccccgtttcc acttttataa aatggaaatg acagtgcctt ccttacaggg 17880 ctgccctgat gattccagga ggcagtgcgg gtacgtggct tacttctgag cttggcgtat 17940 ggtcacagct tgataattat tactcatatc gataatggaa tttggtattc aattttagta 18000 ttttttctcc acactctgaa gaaaagctcc tgactctcag ctaggtgcag gggatgccag 18060 aaactatacc tacaatgaaa ccttatagag atgatggcag gaacagaaat atccatcctt 18120 ccaaccctca agtcagaagc caaagtataa accacatg tatagcttca agttggttac 18180 18240 tgagtgcatt ttcccaactt agatattgca gaattaacaa gagctgtgtg gagaatataa 18300 aatgggacgt acaataacgg ccatatgagg cattcatagg tactggtgat gcagatcatc 18360 gtgggtccca gaatgtcagg tacaatccaa aatcctcgaa ttggagctgg ctgcctggaa aaacacagtc atagttaaat tacaaagcag caaatgcaat ggaaccaaga gcaaagacat 18420 gacaggtccg cggccttctc aggcctgggc tgaagttgct tgggacatcc tatcagtacc 18480 ataacctcaa aagtggtggc ttggaaacct ttaatgcagc tccacactaa agtctagagc 18540 ccatgtgact aagtcactca ggaatcccta actgtagcgt gctgctgact gtaatctcaa 18600 aagttacacg ttacactgaa gatctctcca acttgcacat aagccccagc tatctttgtt 18660 tgcctagccc agtgctaaca aattaagtgc ttagaaactg ttgaatgaac agaactaccg 18720 18780 agtctctctc aatgaggccc aatgtcaatg tcacaggaaa tcacttggca cgcacagcgt 18840 gtatctctct cagtcttcct tcccacttca gtgaagacac tggaaactga gacctcagat gggaactgtc attctgccaa catgctctcc tagcggctcc catgcccatc ccacctgcat 18900 gcctacaaca cacatctgcc cccgaatgtg gatgccgcct cctctcacac cttctgaaaa 18960 ttgtaccatc aactgtgtcg tttcaaaatc tccctattat ctacttcccc tcagcttgca 19020 19080 aactcatgtc tcttccattt aaaatactct catttcaata taatgtccag ttccccttaa 19140 cctattcttt ctcgccatcc ctttagaacc agcagtcttt aaacagcagt tgaaaacact agttcccctt ccatagctcc catttacctt tttggacaag acatggagac gatatctgga 19200 aggttgtaaa ctttaacttt ttattatcag tgtgaaatct acacactact gggctataca 19260 ctatgtaacc agtatccagg tcaagaatca ggacactgca gggggcctca gggttcccat 19320 gcgaccttcc ctggtcatag cctttcactc cccagagaag tagccgctac tctgacattc 19380 ataatatcat gtctttgctt tgctttatag ttttcctatc tatgtattca ctcctaggca 19440

agactgttta attttacctg tttctgaaat tgatataaat gggattttgg ggtttttttg 19560 agatagggtc tcactctgtt gccgaggctg gagtgcaata gtgcgatcac gactcactgc agcettgace tegtgggete aaacaateet teetteteag eeteetgagt agetgggace 19620 19680 acaggtacat gctaccacag tggctaattt ttttttttgt ttgagacgga gtctcactct gttgcccagg ctggagtgca gtgacatgat cttggctcac tgcagcctcc acctcccagg 19740 gtcatacgat tctcctgcct cagcctcctg agtagctggg attacaggtg cccgccacta 19800 19860 cacccaqcta atttttttt tgtattttag tagagacggg gtttcaccac gttggccagg ctggtctcga actcctgacc tagtaattcg cctgcctcag cctcccaaag tgctgggatt 19920 19980 acaggcgtga gccaccacgc ctggcctcac ctagctaatt tttaaatttt tttgtaaagg 20040 gtctcactat gttgcccagg ctggtctcaa actcctggcc tcaagtgatc ctcctgcctc 20100 acctgacaaa gtgctgggat tataggtgta agccaccatg cccagcctac atgggatttt attatgtatt ttccttgttc acttttcttt ttttttttt ttttttgaga tggagtctca 20160 ctctgtcacc cagactggag tgcagtggca tgatctcagc tcactgcaac ctgtgctgcc 20220 cgggttcaag caattctcct gcctcagcct cccgagtagc tgggattgca ggtgtctgcc 20280 accatgcctg gctaattttt gtagttttta gcagagatgg ggtttcacca tcttggccag 20340 gctggtcttg cactcctgac cgtgtgatcc acccacctcg atctcccaaa atgctgggat 20400 tataggcgta agccacagtg cctggtttca ctgttcactt ttcaagctgg tacagtttgc 20460 tatccttctc attccccacc aagcgttttc cctgtggtcc tctgtattgc caaacctaga 20520 ttatgtctat ttcttagtgt atgctatttg tctcatgtct gtgtatactc catgtctaac 20580 agagtgctta tgagatatct agtaattgat gaacagaata aagggaggta tctagaatac 20640 cttccaggtt tctactgggg ataactgggg tgatatggca cccttcagaa aaatgggaca 20700 caggagagag agcagatttg gaaagacaga agatgagtta aggggacatc tggagtttta 20760 tgttcctata ggatatccaa gtggaggagc ccagtaggca gctgggtatg tgaatctgga 20820 gttcagagtg gtctgggcta gggcgatatg gatgcgggaa ctgtcagcac tgaagccatg 20880 attacggcag aagttactca ggaaaggacc tagaaagaat agagaagacc caaggaaaga 20940 gttgtgagca ttacttataa gcagtgagta gaggcagagg aacccgccca agaaggaaac 21000 21060 ttgagaaaag ggctgctggc gggactgaag gagaacctgg agggacagac gtcaaggatg 21120 ccaaggagaa tgtgtttcaa agaggagaca tgggcaacca catcaaataa acacagcaat gcagtgaagg gcagacacag tctctgctct catgaaacat atacattccg gtagtggcga cagacattaa aaaaatgcaa atataaatag tgtaatatgt gctacaatgg ataagagaat aggagagccc caagttagac tggggagtca agggtgttct ctgtgaagaa gtgacattaa gatcagaaag aagggtagga gttagccaag agaagacagc aagctggggc tggggctggg gctggggaag gaccttccag tcaggaaaca gtatgtcgag tggccctgga gaggagaaag 21480 cttctgatga gcaggacact cttaggggag aagtatcacg tctgcaactt tcaaatgact 21540 cagcagtgaa tactgtggat gtgagtgtaa cggatacaaa cgtatctgaa ctgctgaaat gaacaattgt tttctgatat acaagggagg gagagtcctt acctgcaggg caatggcttc gtacaaagga tgtgttcaac aaagcatttc tgttctgtag agagttcctg taaactatcc ttatcttctt catctaccat ggaagacatt acataaatga aatgatgctt agacaagtct 21720 ccaaattaaa atgctaatga tattgggtta aatgcagtga ggttcttgtc tgaaaacatt gcttctcaag tactatgctt ttctgacata ggcatacgct ttcccagggg gtctagattt ccgccccaag aagtaggatt ttccttcgta atgtctctga atgcaaaaat gtttcactaa gaacagtgaa atcattctct tctagggtgc tgcttaccca cactgatttt attttcataa aggttgagta tcctttatcc aaaatgcttg ggatcagaag tgttttggat ttcacatttt 22020 ttttttggat tttggaatat gtgcattata cttagtagtt gaacatctct tatctgaaaa tctaaaatcc taaatgctcc aatgagcatt tctgttgtca tgacagcact caaaaacttt tgtagctcac tcaggttcaa ggatggaaaa aagaaaagtt ttggatttca aatttttcag agtagggata ctcaatttat aacagcttta tttttttttg gatggagtct ccctctgttg 22320 cccaggctgg agcgcagtgg cccaatctct gctcaatgca acctccggct tctgggttta agtgattctc ctgcgtcagc ctcctgagta gctgggacta caggtggacg ccaccacgcc 22380 22440 caggttttag tagtagacag ggtttcacgg tattggccag actggtctcg aactcctgaa 22500 ctcaggtgat ctacctgcct cagcctccca aagtgctggg attacaggtg tgaaccacca 22560 cgcctggcct gtaacagctt tttgaaacgt aattcacagt accatacaag tcatccattt 22620 aaagtatacc cattaaagta tacaattcag taagttttta gtgtaagaat tgtatacctg gcagggtgcg gtggctcatg cctgtaattc ccagcacttt cggaggccaa ggtgggtgga 22680 tcacccgagg tcaggagttc aagaccagcc tggccaacat agcgagacgc cgtctctact 22740 aaaaacacaa aaattagctg gacgtggtgg tgggcacctg taatcccagc tactcgagag 22800 gctgaggcag gtgaatcgct tgaacccagg aggtggaggt tgtggtgagc caagatcatg 22860 ccattgcacc ccagcctggg caacaagagt gaaactccgt ctaaaaaaaa aattgtatac 22920 22980 ctatcattaa caatttggaa tattttcatt tccccaaaag aaacccacat aaccattagc 23040 aatcactcct cagtttctac caaacttccc agacctaggc aactaatcta ctttctgtct 23100 ctgtacattt gtctattctg gacatctcat ataaacagcc atacagttgt ttgtaactgg